COMPACT disc DIGITAL AUDIO

SERVICE MANUAL CD-74

This service manual explains them by extracting the different specifications from those of the CD-84 (N), based on the CD-84 (N). For both electrical and mechanical information on the after-sales service which is not stated, all information is described in the CD-84 (N) service manual. The dispatch of the parts for after-sales service has to be referred to this service manual, with the first priority.
For this reason, please use this service manual with referring to the CD-84 (N) service manual, without fail.

SHOCK, FIRE HAZARD SERVICE TEST:
CAUTION: After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or front Panel of product and controls and chassis bottom.
Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before return to user/customer.
Ref. UL Standard NO. 1270. Para. 66.3D (Mandatory Test after servicing Electrical Appliances, effective 7-1-83).

Finnish: VAROITUS. Laite sisältää laserdiodin, joka lähettää (näkymätöntä) simille vaarallista lasersäteilyä.

CLASS 1
LASER PRODUCT

marantz®

Original Model CD-84 (N.A)			Model CD-74				
Page	REF. DESIG.	PART NO.	Q'TY U	Q'TY N	Q'TY A	PART NO.	DESCRIPTION
42	R311	Ri01823180	1	1	1	GM21482520	Resistor 82.5KΩ
	R312	Ri01823180	1	1	1	GM21482520	Resistor 82.5Ω
	R384	GA05082020	1	1	1	GA05039020	Resistor 3.9Ω
	R385	GA05082020	1	1	1	GA05039020	Resistor 3.9Ω
	D251	HD30041010				————	Delete
	Q205	HC10081060	1	1	1	HC10010320	IC IR2339
	Q207	HC10055010	1	1	1	HC402500B0	IC μp D4025BC
	Q211	HC10056010	1	1	1	HC405300B0	IC μp D4053BC
	Q212	HC10082060	1	1	1	HC10008320	IC IR3702
	Q214	HC10082060	1	1	1	HC10008320	IC IR3702
	Q215	HC10082060	1	1	1	HC10008320	IC IR3702
	Q218	HC10083060	1	1	1	HC10011320	IC IR3741
43	C606	DF55122530				————	Delete
	C612	DF55222510				————	Delete
	C627	EA10701660	1	1	1	EA47602560	Elect 47μF 25V
	C628	EA10701660				————	Delete
	C631	————	1	1	1	DF55122530	Film 1200PF ±5%
	C652	DF55222510				————	Delete
	R518	————	1	1	1	GD05103140	Resistor 10KΩ
	L502	LC14730040				————	Delete
45	R810	GD05102140	1	1	1	GD05332140	Resistor 3.3KΩ
	⚠Q801	FU20215010	1	1	1	FU27215010	Protector Unit ICP-F75
	⚠Q804	————	1	1	1	FU40115010	Protector Unit ICP-F10
	⚠Q820	————		1	1	FU40115020	Protector Unit ICP-N10
	PH00	WB106K1860				————	Delete
		ZZ106K8860				————	Delete
	⚠CH01	DF77154810				————	Delete
	⚠CH02	DF77154810				————	Delete
	⚠RH01	RC05224120				————	Delete
	⚠LH01	TZ11560010				————	Delete
	SS01 ~ SS16	SP01010800	16	16	16	SP01010570	Push Switch
	CT04	DK46103300				————	Delete
	CT13	OA22703510	1	1	1	OA47603510	Elect 47μF 35V
46	PU10	WB106K1880	1			WB106K1880	P.W. Board Headphone
		ZZ106K1880	1			ZZ110K1880	P.W. Board Assembly
	PJ21	YJ01001790	1			YJ01002080	Jack Headphone
	PW10	WB106K1850	1			WB106K1850	P.W. Board RCA Output Volume
		ZZ106K8850	1			ZZ106K1850	P.W. Board Assembly
	WT03	YT02020330	1	1	1	YT02020420	Terminal 2P RCA Jack
	SX01	SP01010800	1	1	1	SP01010570	Push Switch Tact

Original Model CD-84 (N.A)			Model CD-74				
Page	REF. DESIG.	PART NO.	Q'TY U	Q'TY N	Q'TY A	PART NO.	DESCRIPTION
46	SY01 ~ SY04	SP01010800	4	4	4	SP01010890	Push Switch Tact
	SY05 ~ SY12	SP01010800	8	8	8	SP01010570	Push Switch Tact
	PZ20	WB106K2430				————	Delete
		ZZ106K2430				————	Delete
	CZ01	DK46333300				————	Delete
	CZ02	DK46472300				————	Delete
	CZ03	EJ10601610				————	Delete
	CZ04	EJ47502510				————	Delete
	CZ05	EJ10601610				————	Delete
	CZ05	EJ47601610				————	Delete
47	RZ01	RI05224180				————	Delete
	RZ02	RI05120180				————	Delete
	RZ03	RI05102180				————	Delete
	DZ01	HI60001060				————	Delete
	QZ01	HC10071060				————	Delete
	LZ01	LA74020010				————	Delete
	PT51	YF113K1210				————	Delete
		ZZ113K1210				————	Delete
	CT51	DK16121300				————	Delete
	CT52	DK16471300				————	Delete
	CT53	OA47405010				————	Delete
	RT51	GD05102140				————	Delete
	RT52	GD05022140				————	Delete
	QT51	HI10030020				————	Delete
	QT52	HI20003320				————	Delete
	QT53	HI20003320				————	Delete
	QT54	HT320011KO				————	Delete
	QT55	HC10070060				————	Delete
	DT51 ~ DT55	HD20001210				————	Delete
	FT51	FQ04003020				————	Delete
	PT52	YF113K1220				————	Delete
		ZZ113K1220				————	Delete
	ST51	SS01020510				————	Delete

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COMPACT disc DIGITAL AUDIO

SERVICE MANUAL CD-84

marantz®

model CD-84

Compact Disc Digital Audio Player

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound. Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available to our National Marantz Subsidiary or Agent.

ORDERING PARTS:
Parts can be ordered either by mail or by telex. In both cases, MARANTZ part number has to be specified. If you order by mail, fulfil MARANTZ order forms.

MARANTZ S.A.
EUROPEAN PARTS DEPARTMENT
2, Avenue Léopold III
B-7120 PERONNES-lez-BINCHE
BELGIUM
TWX: 57589 SEPLT B

The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

PARTS ORDERING:
Parts may be ordered from the following addresses:

EUROPE

MARANTZ S.A.
European Parts Department
2, Avenue Léopold III
B-7120 Péronnes-lez-Binche
Belgium
Telex: 57589

MARANTZ DENMARK
Bregnerødvej 132b
3460 Birkerød
Denmark
Telex: 39137

MARANTZ BELGIUM
45 Rue Auguste Van Zande
1080 Brussels
Belgium

MARANTZ NEDERLAND B.V.
Wagenmackersweg 3
3449 HV Woerden
Netherlands

MARANTZ S.A.
326 Avenue Louise Bte 32
1050 Bruxelles
Belgium
Telex: 26602

MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France
Telex: 611651

MARANTZ SVENSKA A.B.
Svartviksvägen 56
Träneberg Bromma
Sweden
Telex: 13449

MARANTZ ITALIANA S.p.A.
Via Monte Napoleone, 10
20121 Milano
Italy

MARANTZ GERMANY G.M.B.H.
Max-Planckstrasse 22
6072 Dreieich 1
Germany
Telex: 4185316

MARANTZ AUDIO U.K. LTD.
Unit 15/16
Saxon Way Industrial Estate
Moor Lane
Harmondsworth UB7 OLW
Great Britain
Telex: 935196

MARANTZ AUSTRIA Ge.M.B.H.
25 Franz Lisztgasse
2380 Perchtoldsdorf
Austria
Telex: 113583

AUSTRALIA

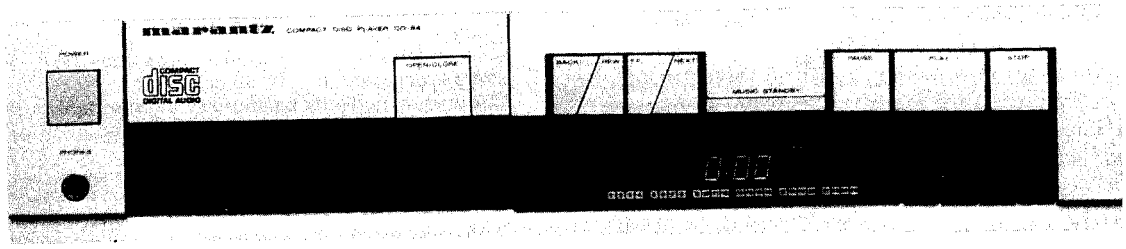
MARANTZ AUSTRALIA PTY., LTD.
19 Chard Road
Brookvale, NSW 2100
Australia
Telex: 24121

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.

In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

marantz®

MARANTZ MODEL CD-84 COMPACT DISC



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INTRODUCTION

This service manual are prepared for use by Authorized Warranty Station and contains service information for Marantz Compact Disc.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation of the Compact Disc.

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A simple description is included for parts which can be usually obtained through local suppliers.

1. P.W. BOARDS

As can be seen from the circuit diagram, the chassis of your Compact Disc consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Servo . . . . . mounted on P.W.Board P200
2. Decoder and Headphones Amp. . . . . mounted on P.W.Board P500
3. Power Supply and Motor Drive . . . . . mounted on P.W.Board P800
4. Filter . . . . . mounted on P.W.Board PH00
5. Power Switch . . . . . mounted on P.W.Board PS10
6. Ten Key Switch . . . . . mounted on P.W.Board PS20
7. Featuer μ-com . . . . . mounted on P.W.Board PT10
8. Headphone . . . . . mounted on P.W.Board PU10
9. RCA Terminals . . . . . mounted on P.W.Board PW10
10. Tray Open Close Sw. . . . mounted on P.W.Board PX20
11. Front Display . . . . . mounted on P.W.Board PY20
12. Sensor . . . . . mounted on P.W.Board PZ20
13. Sub Chassis . . . . . mounted on P.W.Board P100

MEASURING EQUIPMENT AND TEST DISC REQUIRED FOR SERVICING

- DC voltmeter
- Distortion meter
- Low pass filter
- Spectrum analyzer
- Oscilloscope
- Phase meter
- Frequency counter
- Test disc

2. FEATURES

The compact disc system is an epoch-making audio system which makes the best of state-of-the-art digital techniques.

HIGH-PERFORMANCE

The CD-84 is extremely superior in performance to the conventional analog audio systems as demonstrated by the following characteristics.

Frequency range:	4 Hz to 20 kHz
Dynamic range:	90 dB or greater
Distortion factor:	0.003%
Wow and flutter:	less than measurable limit
Channel separation:	90 dB or greater

Our unique, perfectly balanced swing mechanism provides excellent anti-vibration characteristics and immunity against oblique setting.

HIGH QUALITY SOUND

The newly developed digital filter, large-scale power transformer, audio capacitor and other high grade parts enable the conversion of all the information recorded on the disc into high quality sound.

VARIETY OF FUNCTIONS

Each audio disc contains various information other than music (e.g., selection numbers, length of each selection, etc.) and the CD-84 reads this information to provide many useful functions.

RANDOM ACCESS PROGRAMMING
Any number of selections (up to 24) can be automatically played in the desired order using the random access programming function.

DELETE PROGRAMMING
Any selections can be skipped automatically by using the delete programming function.

ALL PLAY
Of course, all selections can be played in the recorded order.

AUTO MUSIC SCAN
When the AMS (Auto Music Scan) button is pressed, the beginning of each selection recorded on the disc is automatically played for 10 seconds.

QUICK TUNE SELECTION
When the music No. is specified, play starts promptly from the beginning of the desired tune.

TUNE SELECTION WITH INDEX NO.
The CD-84 enables you to select tunes by their Index Nos.

TUNE SELECTION WITH TIME PROGRAMMING
Tune selection by specifying time is also possible.

SKIP FEATURE
By pressing the NEXT button during play you can skip selections. The number of selections skipped corresponds to the numbers of times the button is pressed and play starts from the beginning of the selected tune.

BACK SKIP FEATURE
When the BACK button is pressed once during play, the unit enters pause mode at the beginning of the current selection. When the button is pressed twice, the unit returns to the beginning of the previous selection and enters pause mode. This feature is useful for recording.

REPEAT FEATURE
Either all or selected selections can be played repeatedly.

A–B REPEAT FEATURE
When the beginning and end of the section to be played repeatedly is specified, the section can be played repeatedly.

- **MUSIC STANDBY FEATURE**
  With this feature, the unit pauses at the beginning of the specified selection. This feature is useful for recording.

3. LASER RADIATION SAFETY

Protection of eyes from laser beam during servicing
This set employs a laser. Therefore, be sure to carefully follow the instructions below when servicing.

1. **Laser Diode Properties**
   - Material: Al Ga As
   - Wave Length: 0.78 μm
   - Emission Duration: Continous
   - Laser Output: Max. 0.11 mW

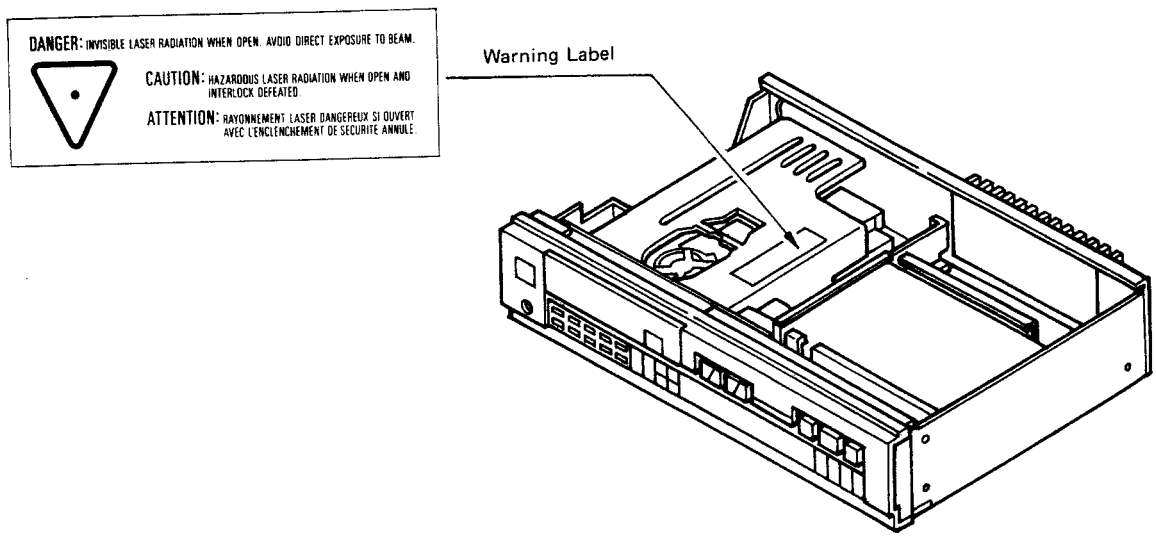
This output is the value measured at the objective lens surface on the light pen assembly.
   - Classification: Class IIIb

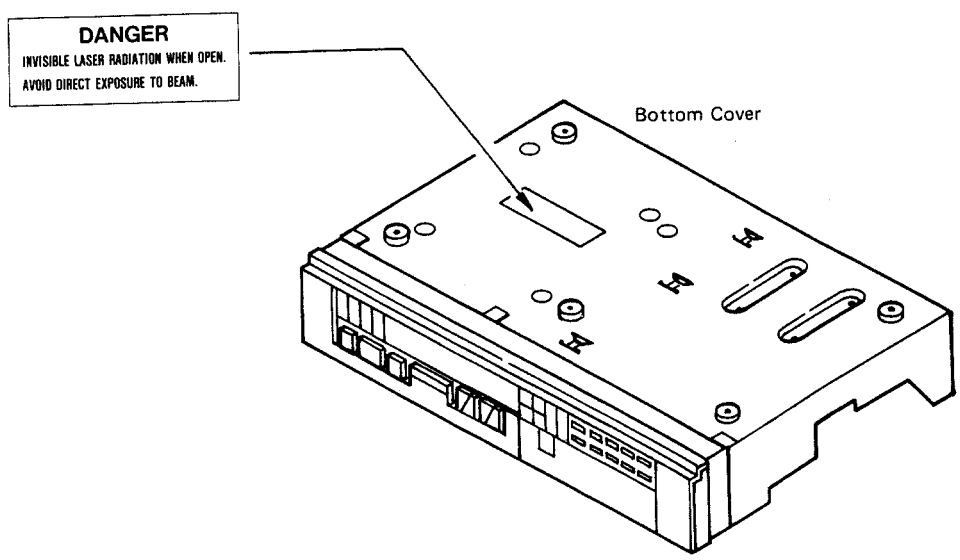
2. During service, do not take the subchassis block apart and do not adjust the H F amp circuit. If there is a breakdown in the H F circuit (including laser diode), replace the entire subchassis block (including H F amp circuit board).

WARNING!!
When servicing, do not approach the laser exit with the eye too closely.
In case it is necessary to confirm laser beam emission, be sure to observe from a distance of more than 30 cm from the surface of the objective lens on the light pen assembly.

LASER WARNING LABELS

The labels shown below are affixed.
1) DHHS Protective housing label
   "DANGER – INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM."
2) DNHW Protective housing label and laser radiation sign label
   "CAUTION – HAZARDOUS LASER RADIATION WHEN OPEN AND INTERLOCK DEFETED."
   "ATTENTION – RAYONNEMENT LASER DANGEREUX SI OUVERT AVEC L'ENCLENCHEMENT DE SECURITE ANNULE."

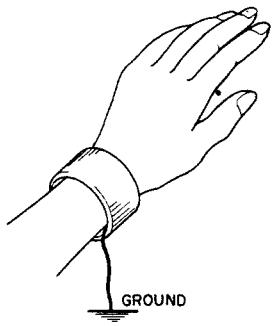

DANGER: INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION: HAZARDOUS LASER RADIATION WHEN OPEN AND INTERLOCK DEFEATED
ATTENTION: RAYONNEMENT LASER DANGEREUX SI OUVERT AVEC L'ENCLENCHEMENT DE SECURITE ANNULE
Warning Label



4. NOTES ON ELECTROSTATIC DAMAGE

When handling the laser diode of the optical pick-up or the MOS IC, be sure not to damage them with electrostatic. The electrostatic level charged in the human body and clothing varies with ambient conditions. However, simply walking will produce an electrostatic charge of more than several kV. With synthetic fiber clothing, an electrostatic charge of about 10 ~ 30 kV will be produced on a dry day. If the charged electrostatic voltage is applied to the electrode of the semi-conductor, the electrode may be damaged easily. When handling the laser diode or the MOS IC, pay attention to the following points.

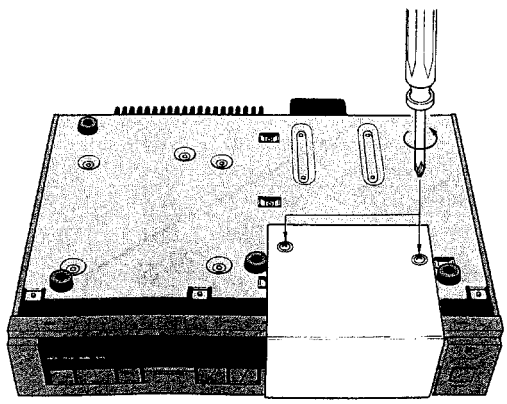
1. Lay a conductive sheet on the work bench and ground it.
2. Ground the soldering iron.
3. Do not wear synthetic fiber gloves or clothing. During operation, be sure to put on the wrist strap shown below.



4. Use a conductive material to store the semi-conductors and short-circuit the electrodes or wrap them in aluminium foil to keep the potential at each electrode the same.

5. TRANSPORTATION SCREW

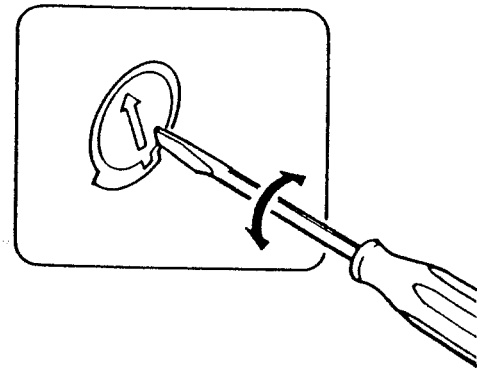
To prevent the laser pick-up from damage during transportation, the pick-up is secured with two screws. After unpacking, be sure to remove two screws. After servicing, do not forget to fix the laser pick-up with two screws.



6. VOLTAGE CONVERSION

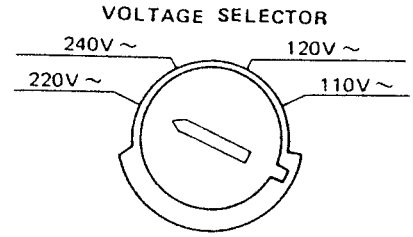
- EUROPEAN MODEL ONLY

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.



CAUTION:

DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.
DO NOT DISASSEMBLE THE VOLTAGE SELECTOR ABSOLUTELY.



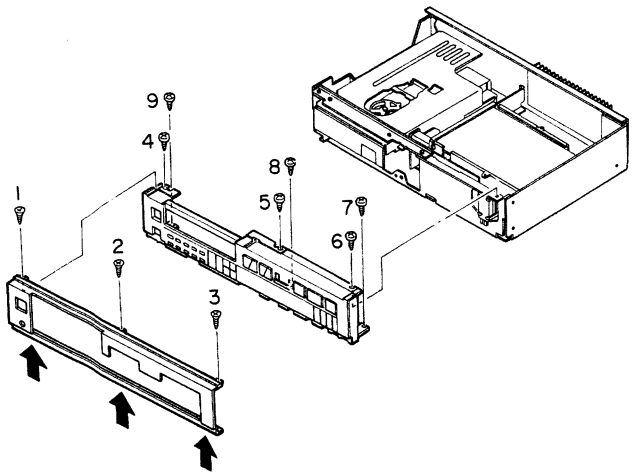
NOTE ON SAFETY:
SYMBOL ⚠ FIRE OR ELECTRICAL SHOCK HAZARD. ONLY ORIGINAL PARTS SHOULD BE USED TO REPLACE ANY PART MARKED WITH SYMBOL ⚠ . ANY OTHER COMPONENT SUBSTITUTION (OTHER THAN ORIGINAL TYPE), MAY INCREASE RISK OF FIRE OR ELECTRICAL SHOCK HAZARD.

7. HOW TO DISASSEMBLE

7-1. HOW TO REMOVE THE FRONT PANEL AND FRONT CHASSIS

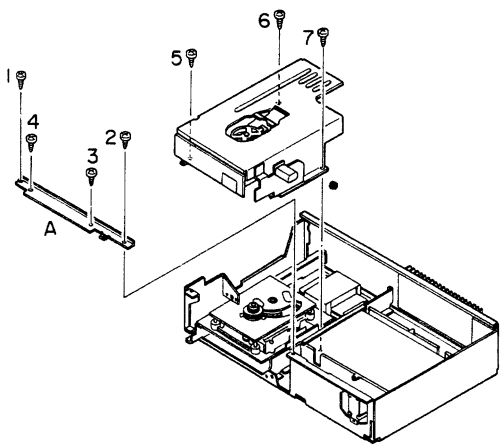
Remove screws ①~③, disengage claws indicated with arrows and remove the front panel.

Remove screws ④~⑨ and remove the front chassis.



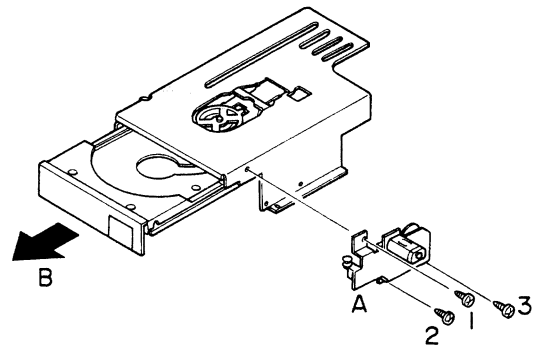
7-2. HOW TO REMOVE THE DISC TRAY

Remove screws ①~④ remove bracket A , remove screws ⑤~⑦ and remove the disc tray chassis.



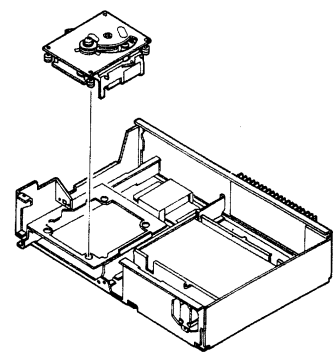
7-3. HOW TO REMOVE THE TRAY DRIVE MECHANISM

Remove screws ①~③ from the motor chassis and take out the tray in the direction of arrow B.



7-4. HOW TO REMOVE THE SUB CHASSIS

Take out the sub chassis upward.

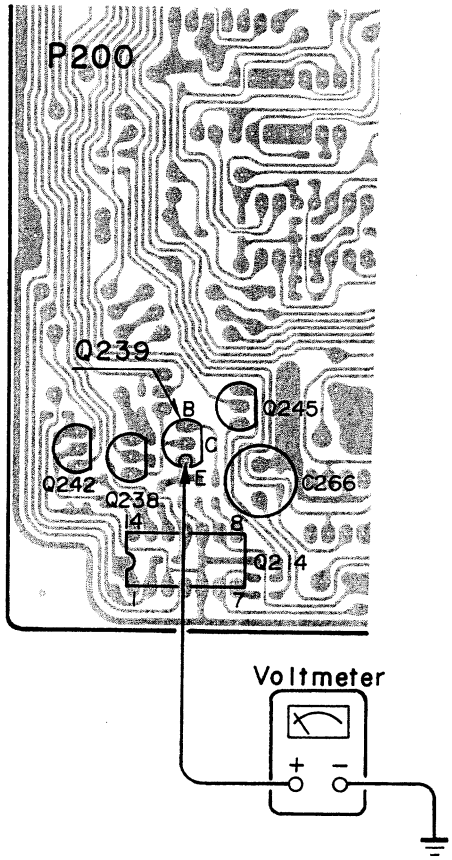


8. ADJUSTMENT AND MEASUREMENT

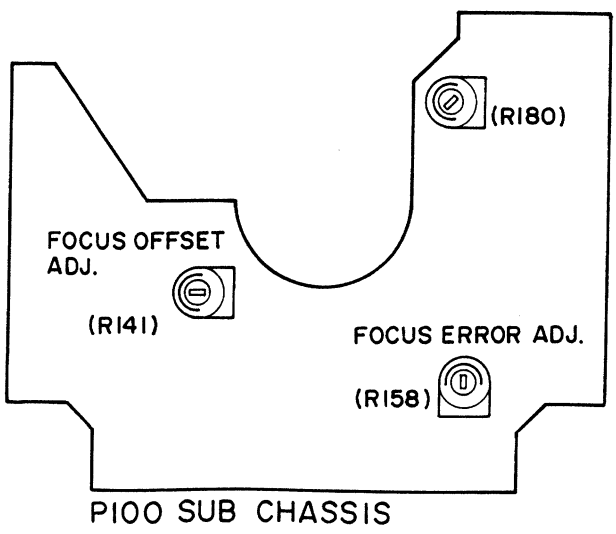
8-1. SUB CHASSIS ADJUSTMENT

8-1-1. Laser Output Adjustment

(1) Play track 1 of the test disc (410055-2).
(2) Connect a DC voltmeter between the emitter of Q239 and the ground of servo P.W. BOARD (P200).



(3) Adjust R180 so the DC voltmeter reads 500 mV ±30 mV.

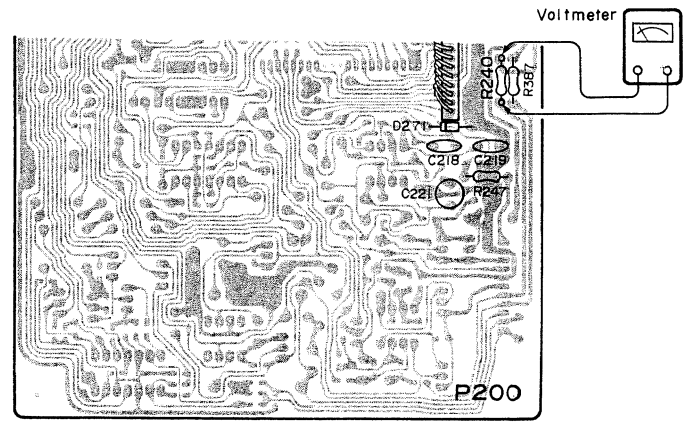


NOTE: If the test disc is not available, play the first track of a commercially available music disc.

8-1-2. Turntable Height Adjustment

To adjust the sub chassis objective lens movable range, proceed as follows.

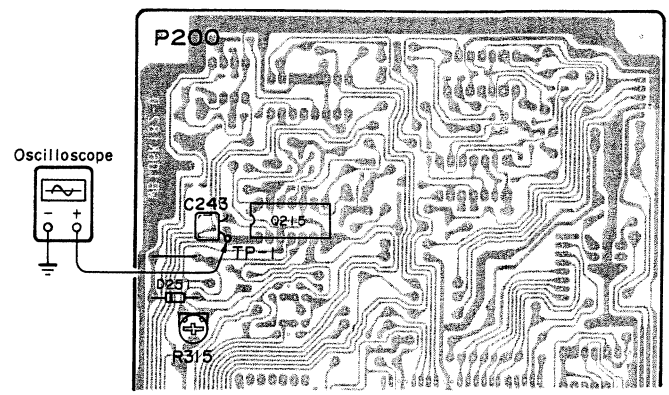
(1) Play track 1 of the test disc (410055-2).
(2) Connect the DC voltmeter to the ends of R240 of servo P.W. BOARD (P200)
(3) The DC voltmeter should read 0 V ±100 mV. If not, adjust the turntable height as follows.
(4) Turn the adjusting screw located at the bottom of the turntable motor so the voltage at the ends of R240 is 0 V.
(5) After adjustment, play the outer part of the disc and check the voltage at the ends of R240 is within ±100 mV of that at the inner part.
(6) After completion of adjustment, secure the screw with screw locking compound.



8-2. SERVO P.W. BOARD ADJUSTMENT

8-2-1. Radial DC Off-set Adjustment

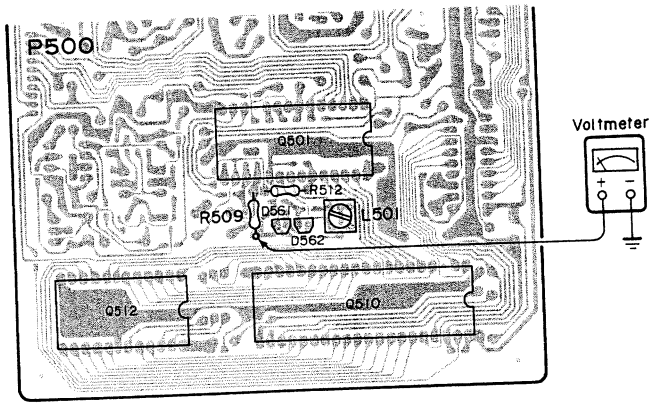
(1) Play track 1 of the test disc (410055-2).
(2) Connect an oscilloscope between the C243 and the ground of the servo P.W. BOARD (P200).
(3) Adjust R315 so that the oscilloscope reads 0 V ±0.5 V.



8-3. DECODER P.W. BOARD ADJUSTMENT

8-3-1. PLL Circuit Adjustment

(1) Play track 1 of the test disc (410055-2).
(2) Connect a voltmeter between the cross point of R509 and R510 and the ground of the decoder P.W. BOARD (P500).
(3) Adjust L501 so the voltmeter reads 5 V ±100 mV.



8-4. ELECTRICAL CHARACTERISTICS MEASUREMENT

8-4-1. Frequency Response

(1) Play track 19 of the test disc (410055-2) and set the level to 0. The frequency of track 19 is 3,150 Hz.
(2) Play the L channel of track 4 and R channel of track 8 of the test disc (410055-2) and measure the level deviation against that of track 19 (3,150 Hz) in dB. The frequencies of tracks 4 and 8 are as follows: 41 Hz, 101 Hz, 997 Hz, 3,163 Hz, 6,363 Hz, 10,007 Hz, 16,001 Hz, 19,001 Hz, 19,997 Hz.

8-4-2. Output Level and Channel Balance

(1) Play track 19 of the test disc (410055-2) and read the level. Calculate the level difference between the right and left channels and the result shoud be the channel balance.

8-4-3. Distortion and Noise

(1) Play track 4 of the test disc (410055-2) and measure the distortion.
The measuring frequencies are as follows:
41 Hz, 101 Hz, 997 Hz, 3,163 Hz, 6,363 Hz, 10,007 Hz, 16,001 Hz, 19,001 Hz, 19,997 Hz.
(2) Perform same procedures for track 8 of the test disc (410055-2).

8-4-4. Signal-to-noise Ratio (Dynamic Range)

(1) Play track 5 of the test disc (410055-2), measure the distortion in dB and assume it as A.
The measuring frequencies are as follows:
41 Hz, 101 Hz, 997 Hz, 3,163 Hz, 6,363 Hz, 10,007 Hz, 16,001 Hz, 19,001 Hz, 19,997 Hz.
(2) Obtain the signal-to-noise ratio and dynamic range according to the following formula.
Signal-to-noise ratio, dynamic range = A + 24 dB.
(3) Perform same procedures for track 9 of the test disc (410055-2).

8-4-5. Channel Crosstalk Measurement

(1) Play track 4 of the test disc and set the left channel output to 0.
(2) Measure the non-signal level of the right channel and read the non-signal level difference against 0 dB in dB.
(3) The measuring frequencies are as follows:
41 Hz, 101 Hz, 997 Hz, 3,163 Hz, 6,363 Hz, 10,007 Hz, 16,001 Hz, 19,001 Hz, 19,997 Hz.
(4) Perform same procedures for track 8 of the test disc (410055-2).

9. DESCRIPTION OF CIRCUIT

9-1. PREAMPLIFIER IC uPC1373H (QZ01)

The IC is a receive-only preamplifier in the infrared-ray remote-control system. High-gain amplifier, peak detector and output shaping circuits required for a receiving pre-amplifier are built in one chip.

- **Absolute Maximum Ratings** (Ta = 25°C)

Item	Symbol	Limit	Unit
Supply voltage	$V_{DD} - V_{SS}$	15.0	V
Power dissipation	Pd	270	mW
Operating temperature	Topt	−20 ~ +75	°C
Retention temperature	Tstg	−40 ~ +125	°C

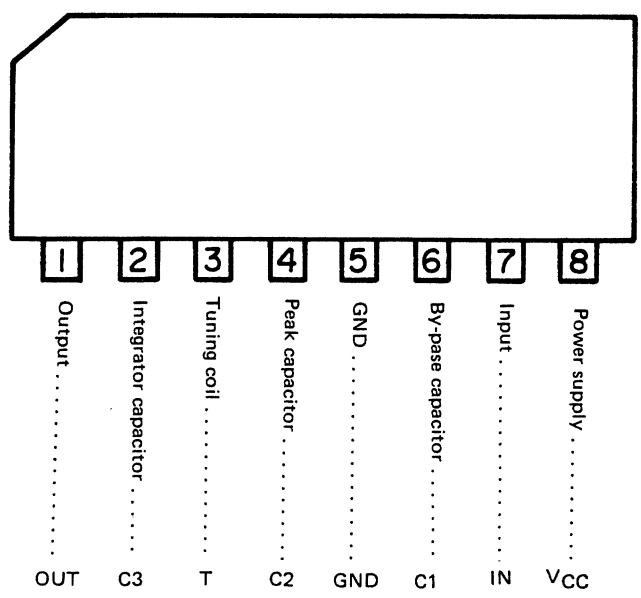
- **Recommended Operating Conditions**

Item	Symbol	Min.	Typ.	Max.	Unit
Supply voltage	V_{DD}	6.0	8.5	14.4	V
Frequency	f_{OSC}	30		50	kHz

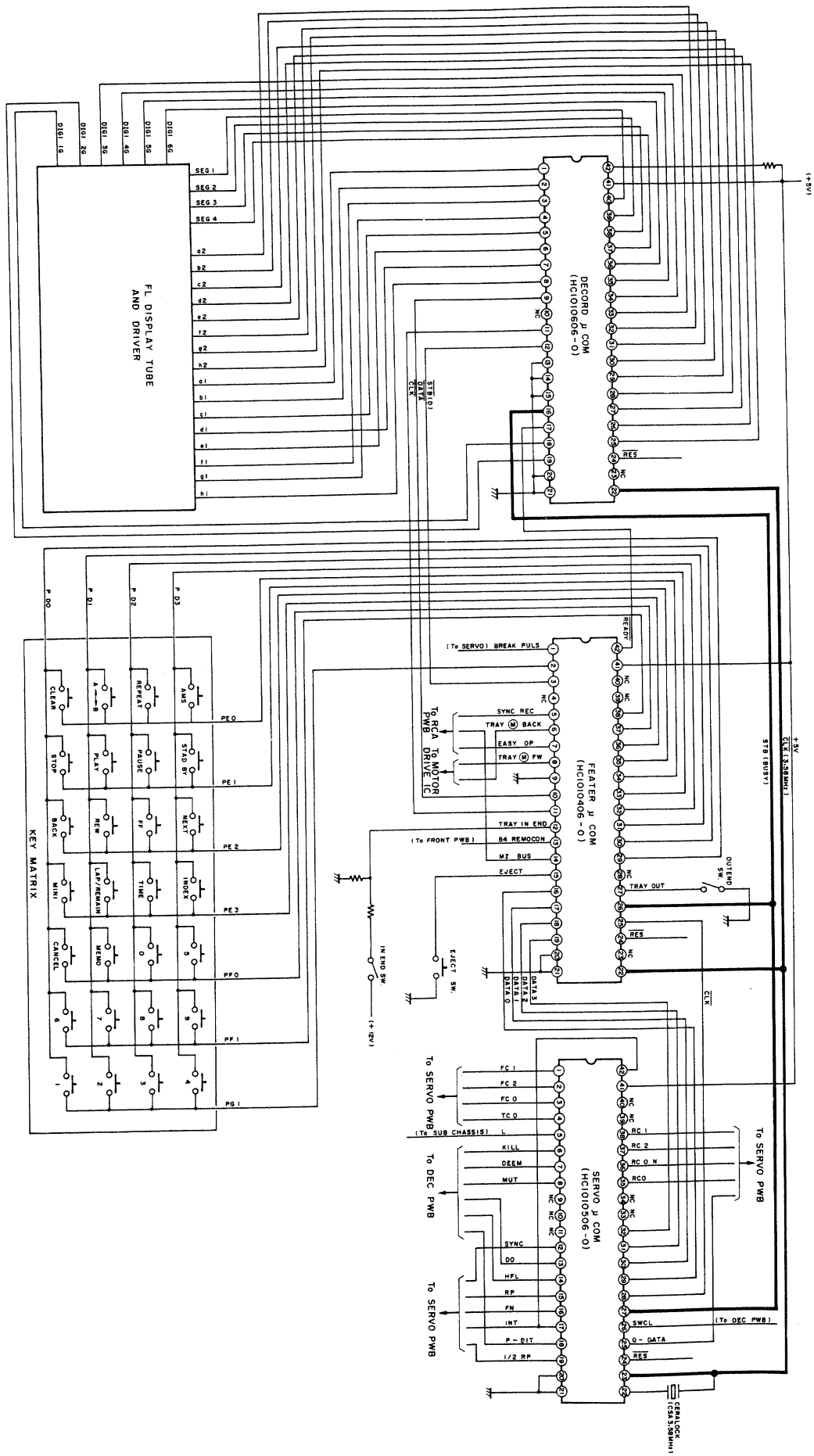
- **Electrical Characteristics** (Ta = 25°C, V_{CC} = 8.5V, f_{in} = 40kHz)

Item	Symbol	Measuring Condition	Min.	Typ.	Max.	Unit
Supply current	I_{CC}		1.5	2.5	3.5	mA
Input terminal voltage	V_{in} 1		2.1	2.6	3.1	V
Input terminal voltage	V_{in} 2	I_{in} = 70 μA	3.4	4.1	4.9	V
First stage voltage gain	A_{vL}	#7 — #3, v_{out} = 500 mVp-p		60		dB
Detecting sensitivity	v_{in}			50	100	μV
Internal input resistance	r_{in}		40	60	80	kΩ
Output voltage	V_{OL}	I_{OL} = 0.1 mA, v_{in} = 1 mVp-p			0.5	V
Output leak current	I_{OH}	V_{OH} = 14.4V			2	μA

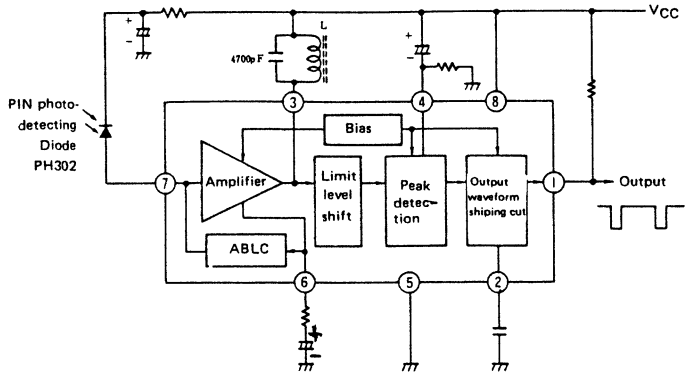
- **Connection Diagram**



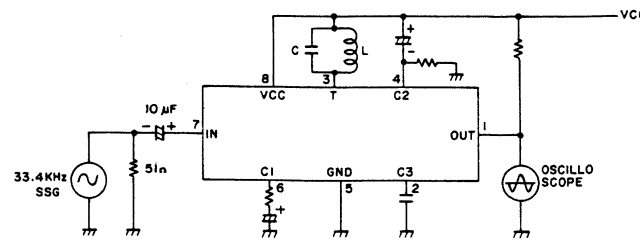
● 3 μ-COM AND KEY MATRIX CONNECTING CKT



- **Example of Basic Circuit**



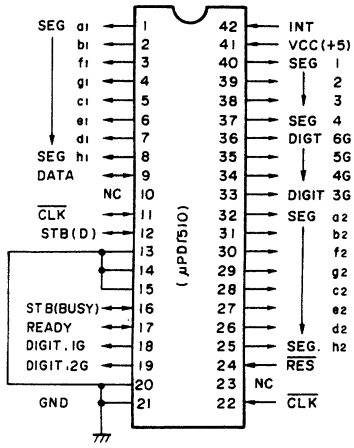
NOTE:
If the remote controller sensitivity cannot be adjusted or the coil (LZ01) setting is shifted, adjust LZ01 as shown below.



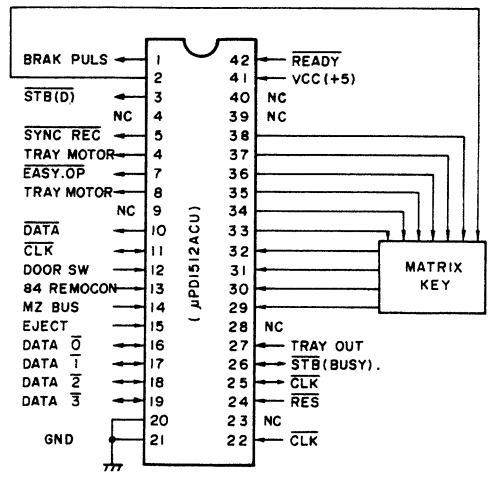
Supply a signal of 33.4 kHz from the SSG to pin (7) and adjust LZ01 so that the waveform at pin (3) becomes maximum.

9-2. μ-COM OPERATION

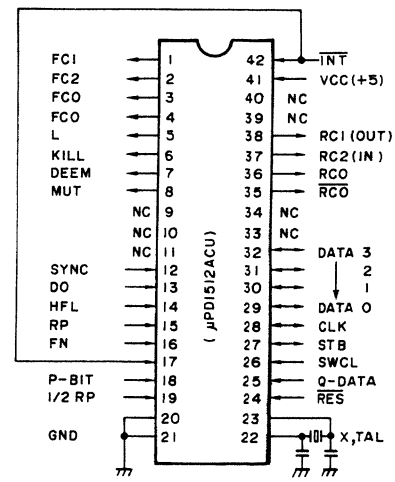
DECORDER U-COM (QY01)



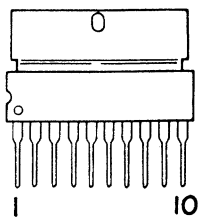
FEATUER U-COM (QT01)



SERVO U-COM (Q201)

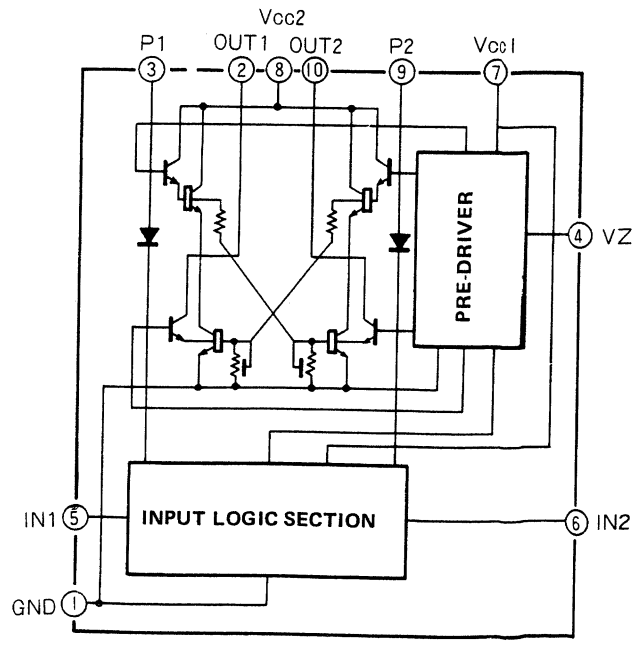


9-3. TRAY MOTOR DRIVE IC LB1645N (QM02)

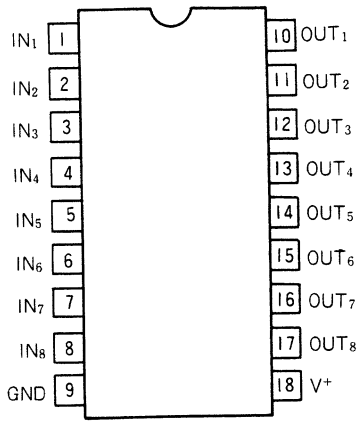


1. GND
2. OUT1
3. P1
4. VZ
5. IN1
6. IN2
7. Vcc1
8. Vcc2
9. P2
10. OUT2

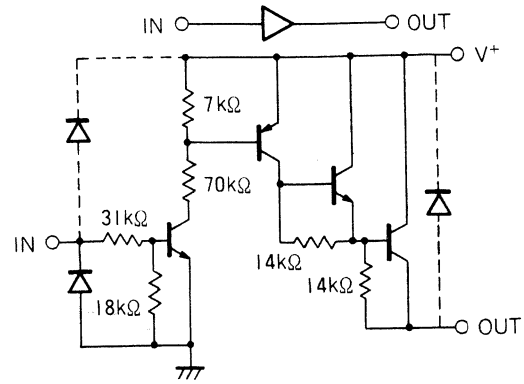
- **Equivalent Circuit Block Diagram**



9-4. DISPLAY DRIVER MSL918RS (QY02~QY04)

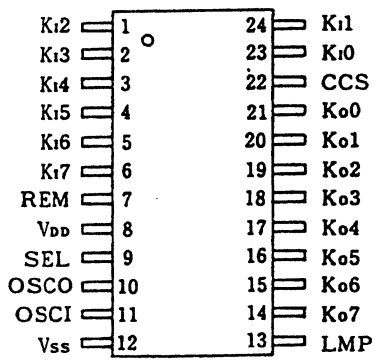


• **Equivalent Schematic Diagram**



9-5. C-MOS LSI uPD6102G (QT55) FOR REMOTE CONTROL

• **Pin Connection** (Top View)



1. KI2 ····· Key Input 2
2. KI3 ····· Key Input 3
3. KI4 ····· Key Input 4
4. KI5 ····· Key Input 5
5. KI6 ····· Key Input 6
6. KI7 ····· Key Input 7
7. REM ····· Remote Output
8. VDD ····· Power Terminal
9. SEL ····· 64/128 Date Select
10. OSCO ····· Oscillator Output
11. OSCI ····· Oscillator Input
12. VSS
13. LMP ····· Lamp Output
14. KO7 ····· Key Output 7
15. KO6 ····· Key Output 6
16. KO5 ····· Key Output 5
17. KO4 ····· Key Output 4
18. KO3 ····· Key Output 3
19. KO2 ····· Key Output 2
20. KO1 ····· Key Output 1
21. KO0 ····· Key Output 0
22. CCS ····· Custom Code Select Input
23. KI0 ····· Key Input 0
24. KI1 ····· Key Input 1

• **Absolute Max. Ratings** (Ta = 25°C)

Item	Symbol	Limite	Unit
Supply voltage	$V_{DD} - V_{SS}$	4.0	V
Input voltage	$V_{IN} - V_{SS}$	$-0.3 \sim V_{DD}$	V
Output voltage	I_{OH} (REM, LMP)	−15.0	mA
Power dissipation	Pd	250	mW
Operating temperature	Topt	−20 ~ +75	°C
Retention temperature	Tstg	−40 ~ +125	°C

- **Recommended Operating Range**

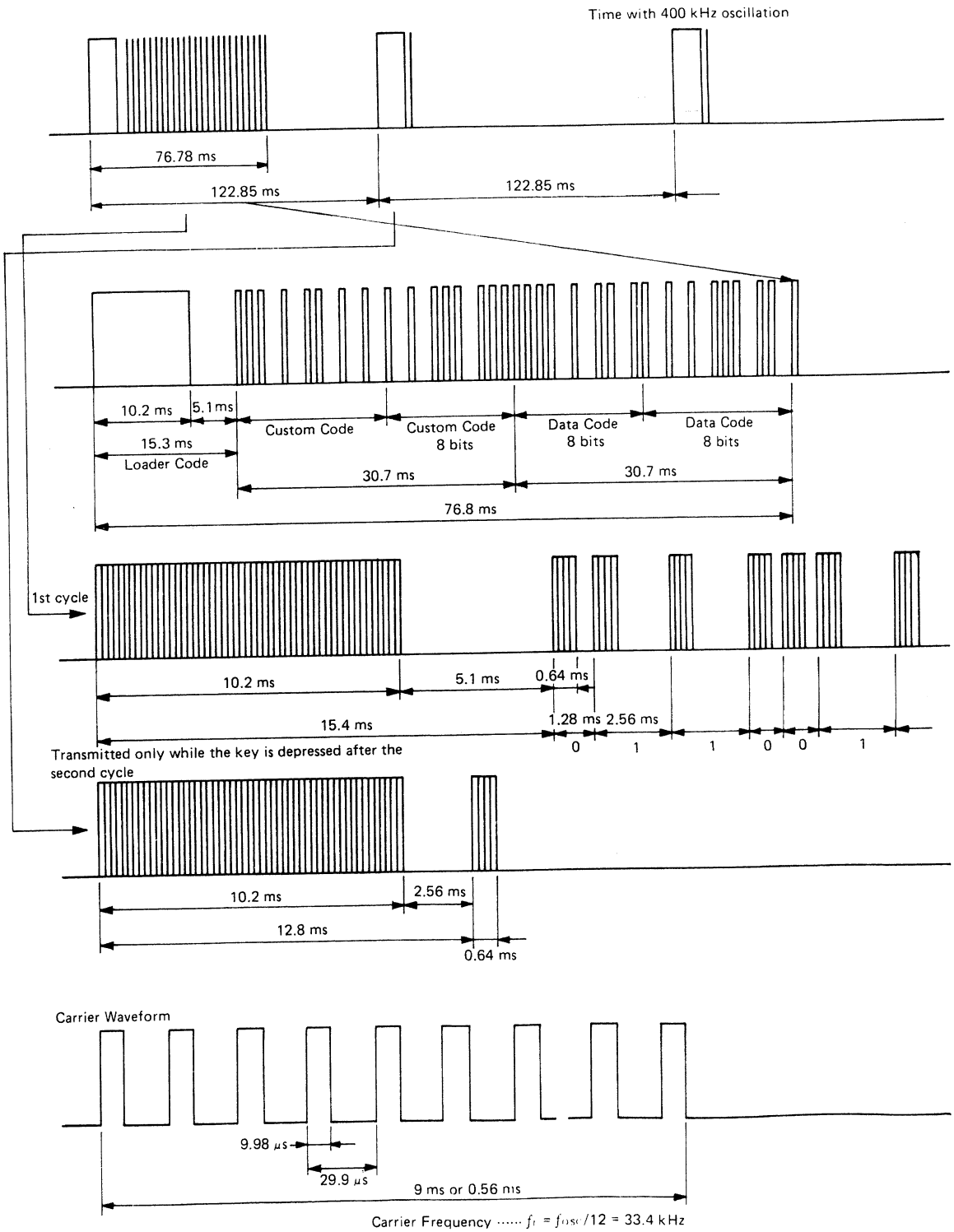
Item	Symbol	Min.	Typ.	Max.	Unit
Supply voltage	V_{DD}	2.0	3.0	3.3	V
Oscillation frequency	f_{OSC}	400	455	500	kHz
Indicator lamp output current	I_{OL} (LMP)		1		mA

- **Electrical Characteristics** (Ta = 25°C, V_{DD} = 3.0V)

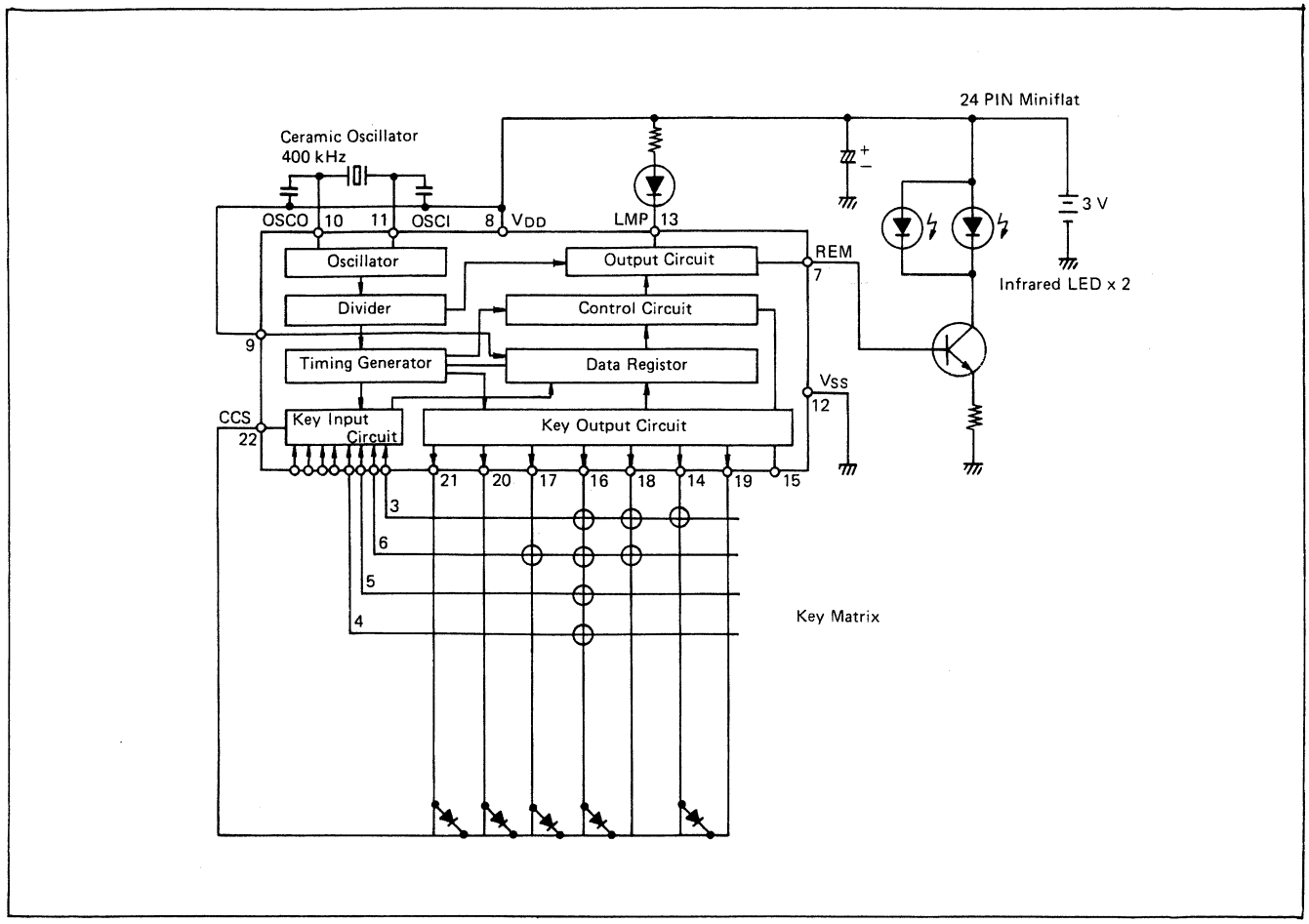
Item	Symbol	Measuring Condition	Min.	Typ.	Max.	Unit
Supply current	I_{DD} (OP)	f_{OSC} = 455 kHz		0.1	1.0	mA
Supply current	I_{DD} (ST)	f_{OSC} = STOP			1	μA
High-level input voltage	V_{IH} (KI)		$0.7V_{DD}$		V_{DD}	V
Low-level input voltage	V_{IL} (KI)		0		$0.3V_{DD}$	V
Input pull-down resistance	R (KI)		150	300	600	kΩ
Output voltage	I_{OH} (REM)	V_{OH} (REM) = 1.5V	−5	−13		mA
Low-level output voltage	V_{OL} (LMP)	I_{OL} = 1.0 mA		0.17	0.3	V

- The pulse position modulation system (PPM) is introduced as shown if Figure for remote-control infraredray output waveforms to discriminate 1 from 0 with a duration between pulses.
  Each of custom codes and data codes consists of 8 bits. Inverted codes are also transmitted in the system to minimize misoperation.

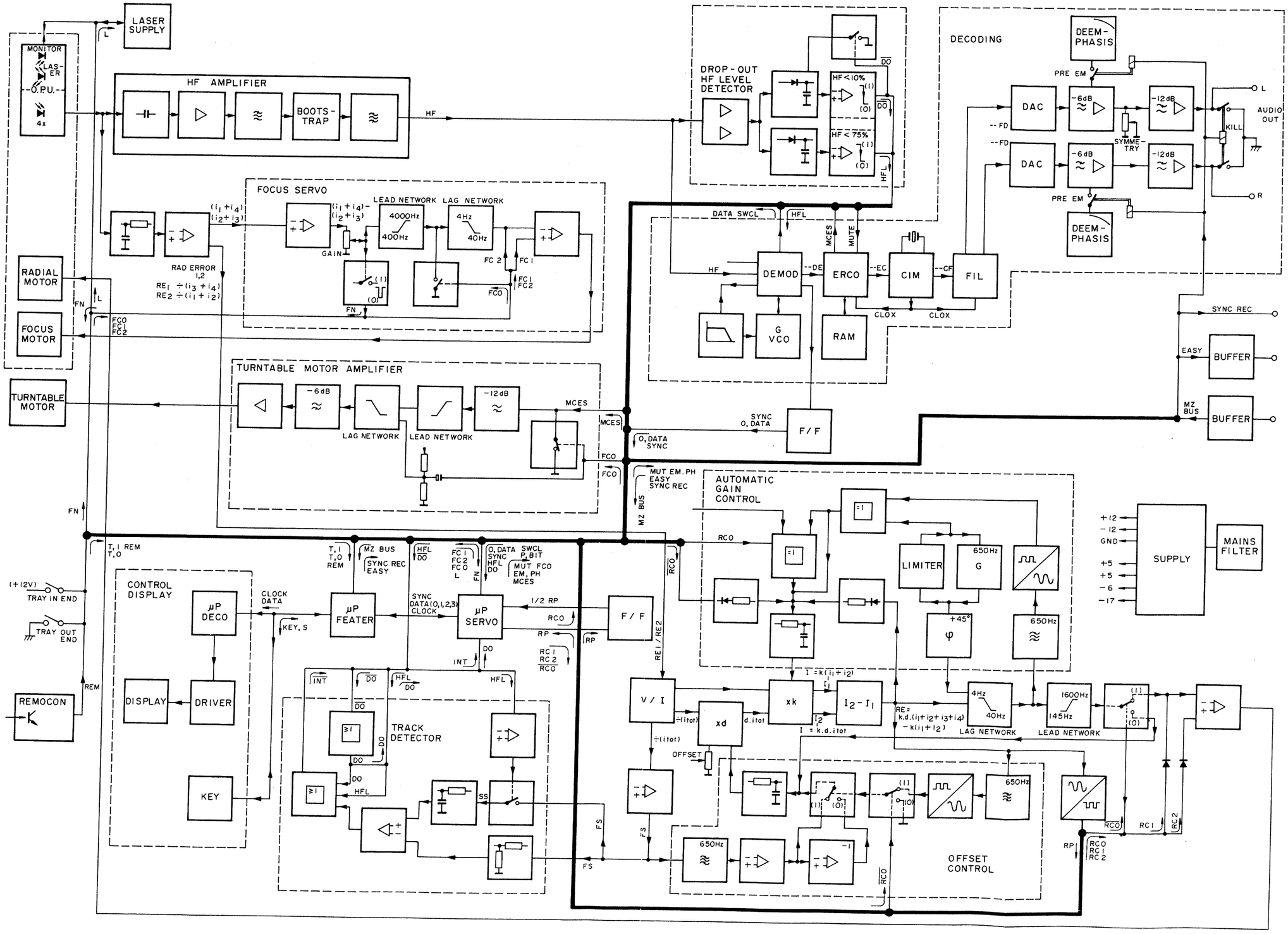
- **Remote Output Waveform**



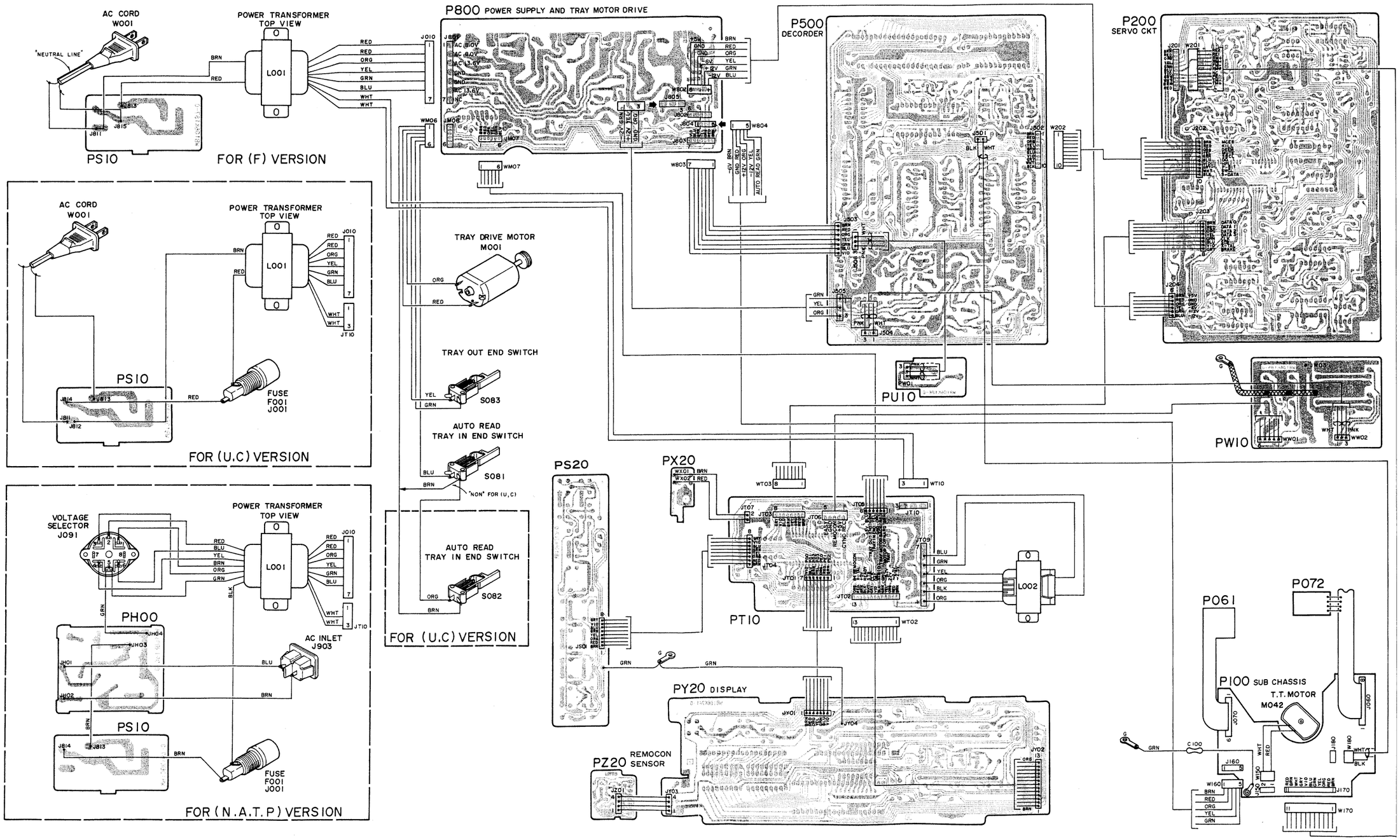
9-6. REMOTE CONTROLLER BLOCK DIAGRAM



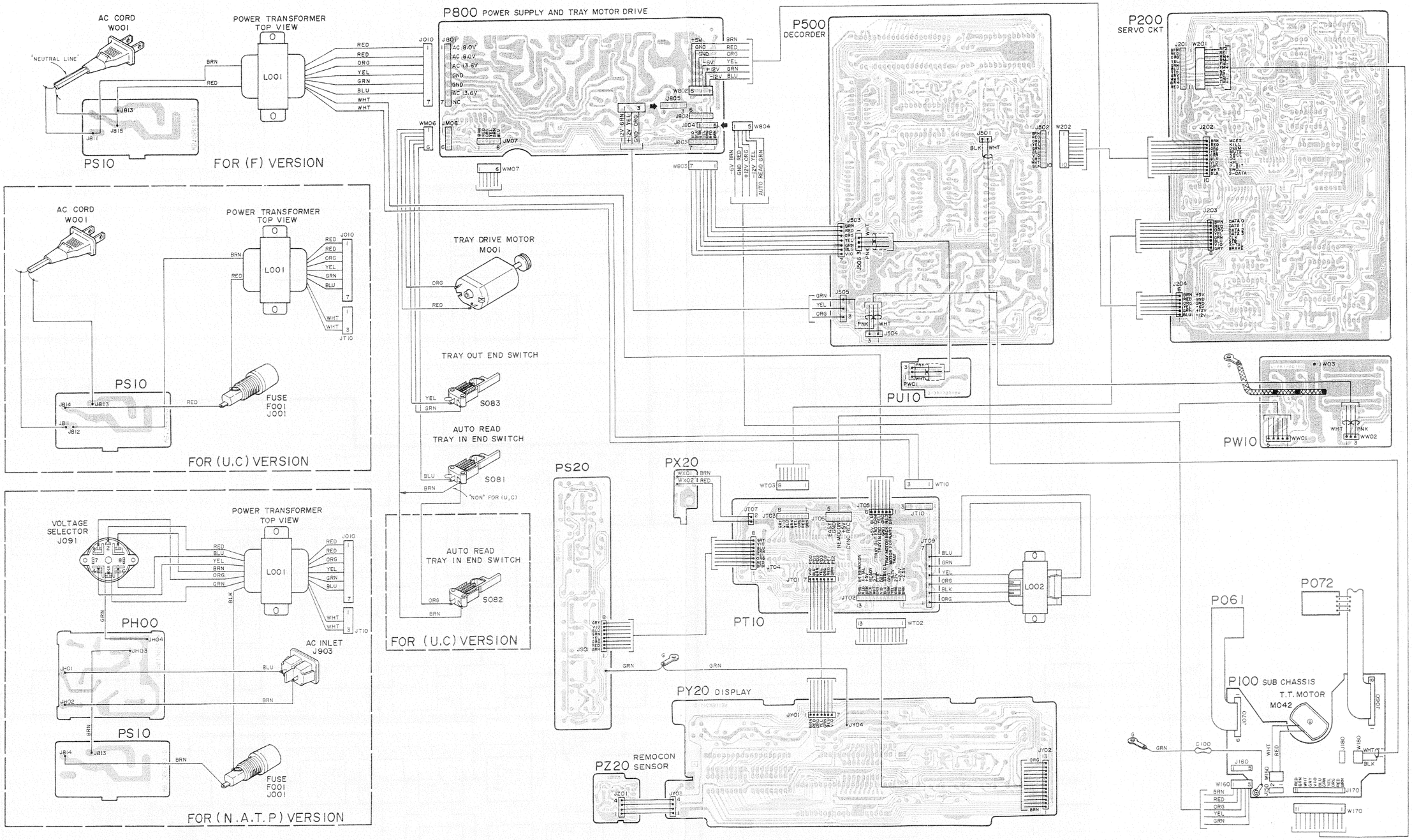
10. BLOCK DIAGRAM



11. WIRING DIAGRAM

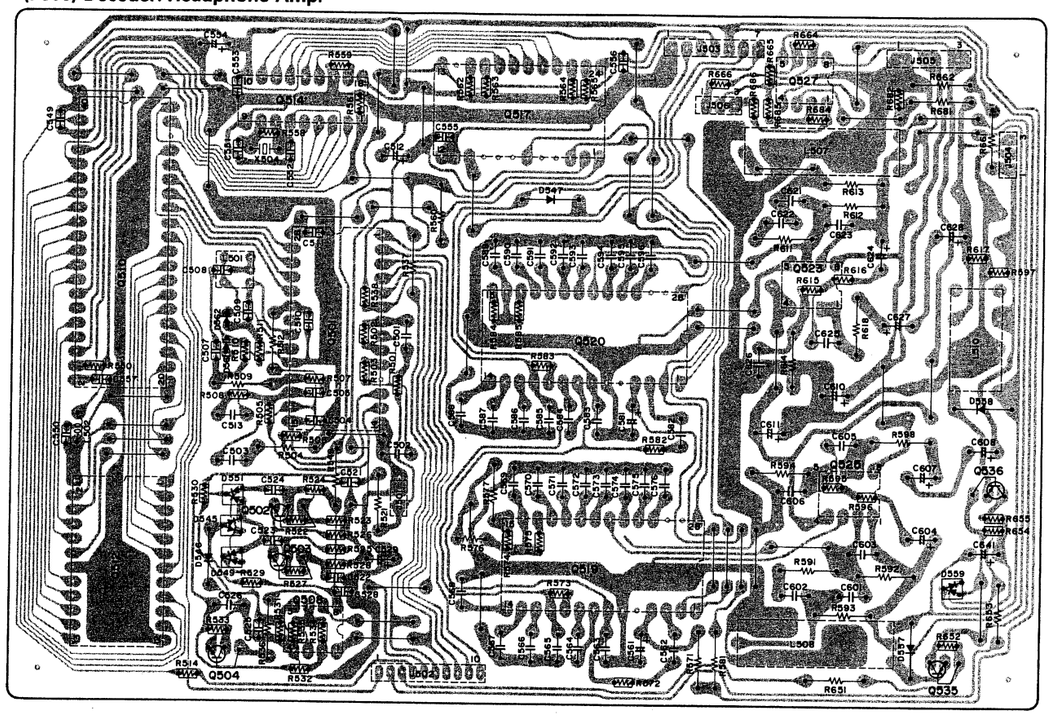


11. WIRING DIAGRAM

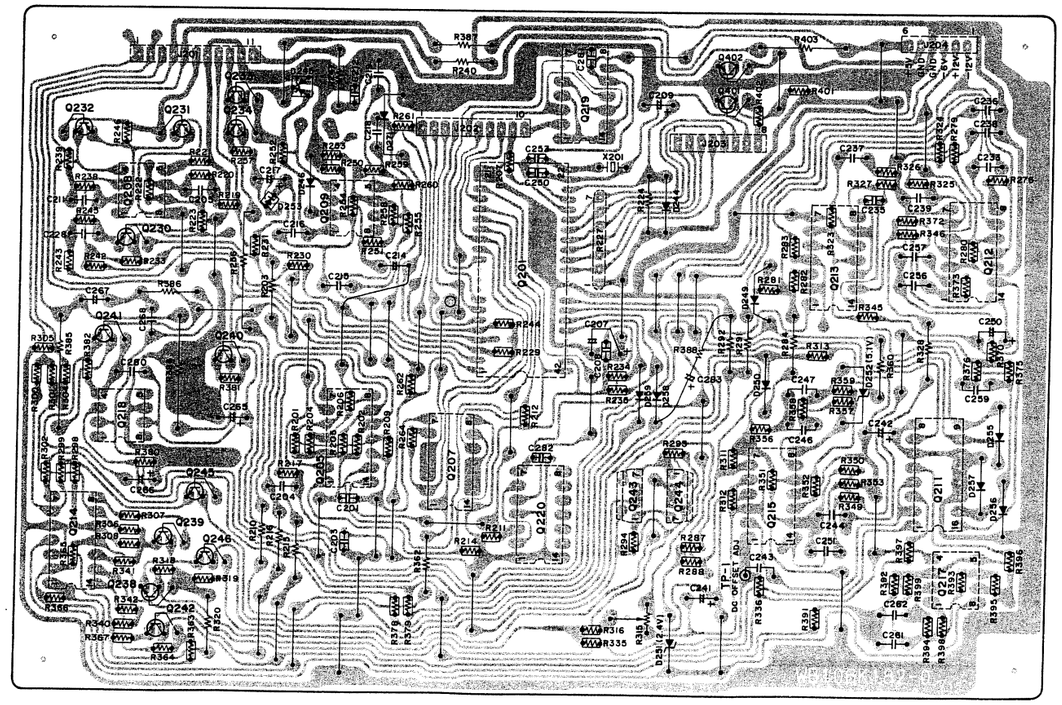


12. P.W. BOARD DIAGRAM

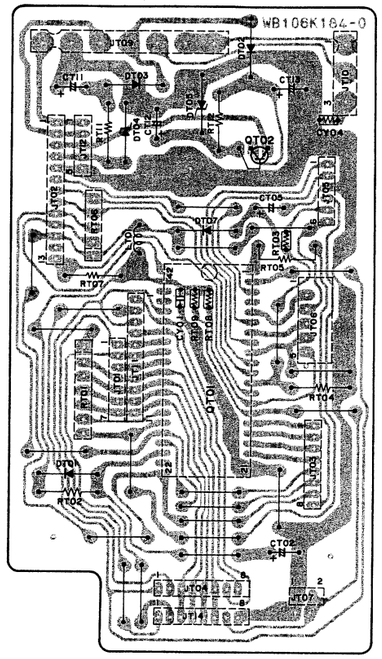
(P500) Decoder/Headphone Amp.



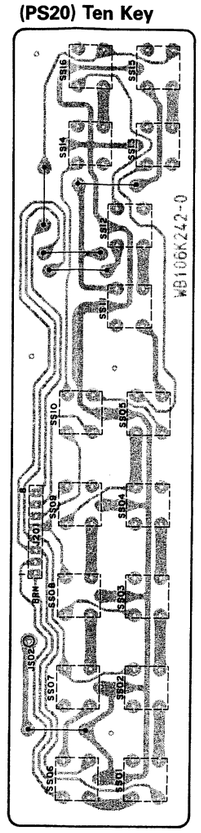
(P200) Servo



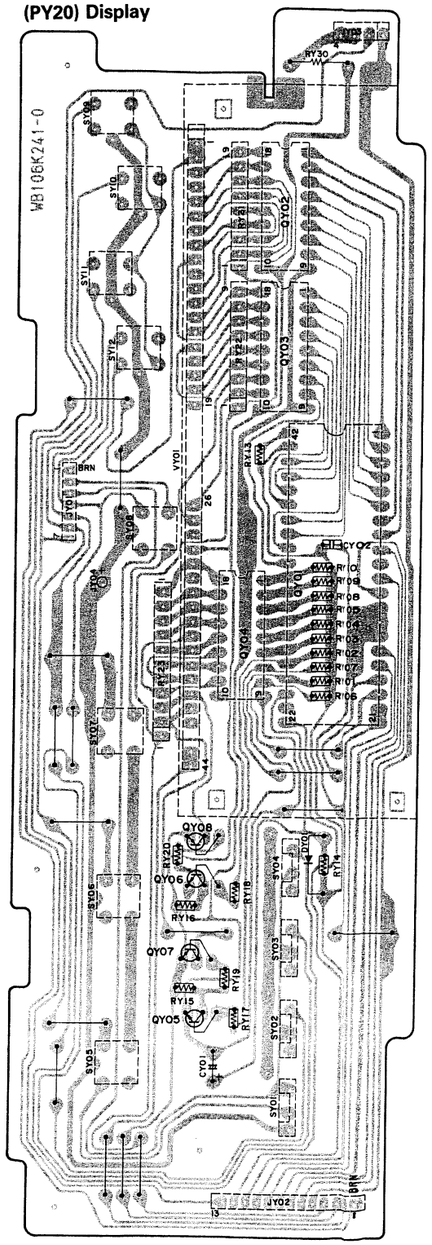
(PT10) Feater μ-com



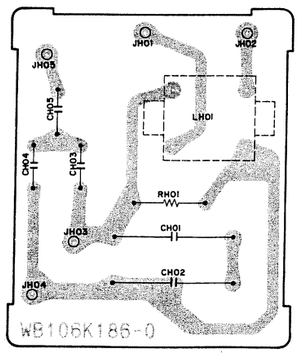
(PS20) Ten Key



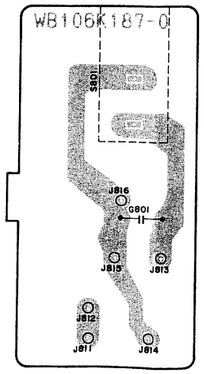
(PY20) Display



(PH00) Filter

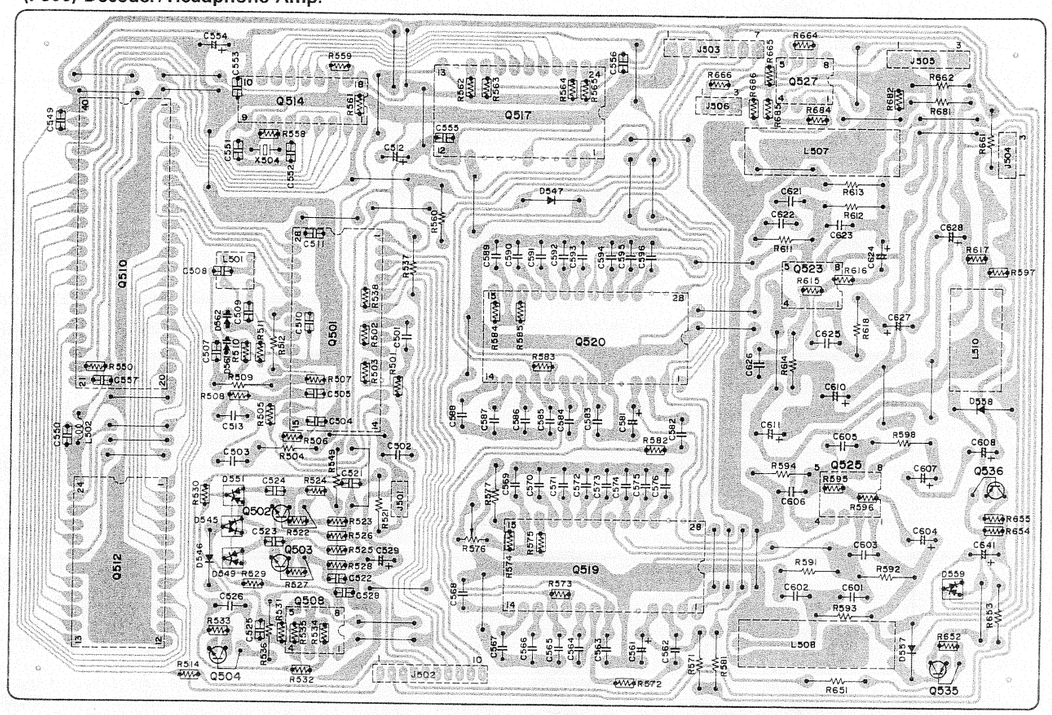


(PS10) Power Switch

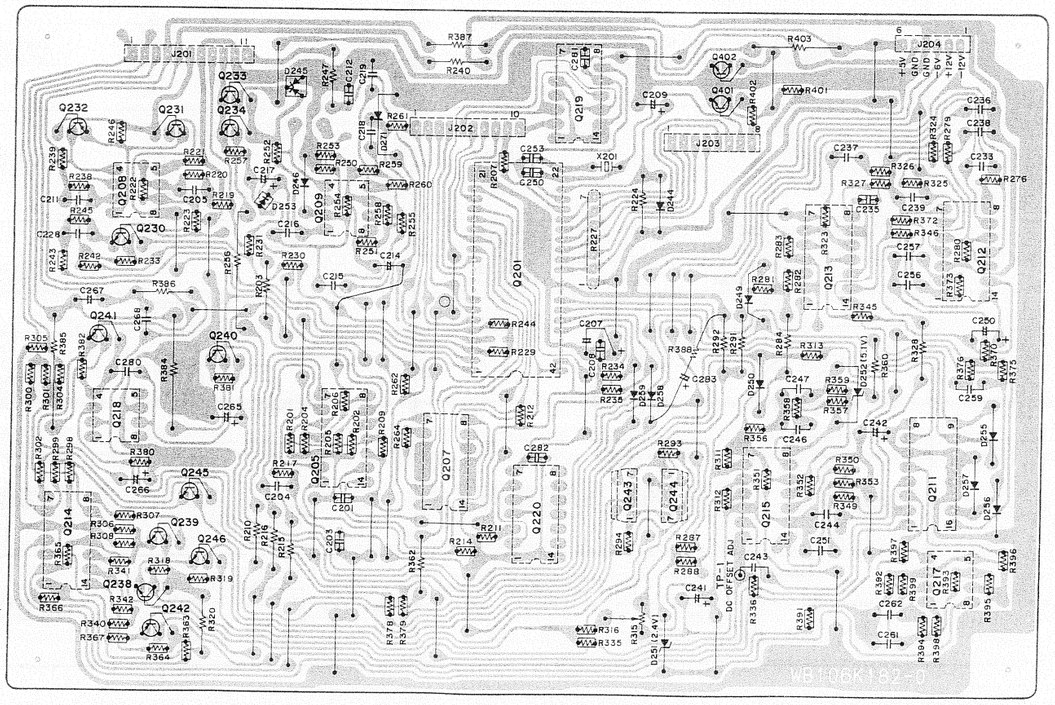


12. P.W. BOARD DIAGRAM

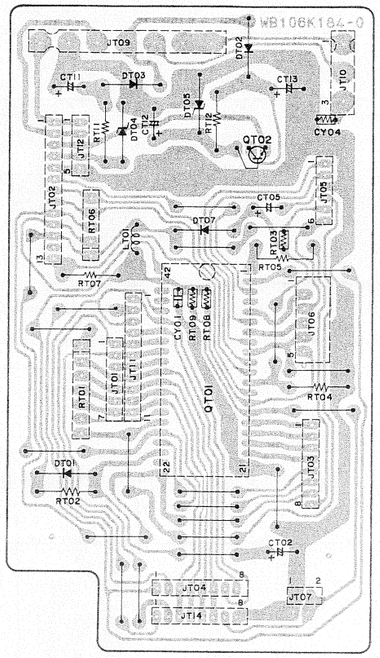
(P500) Decoder/Headphone Amp.



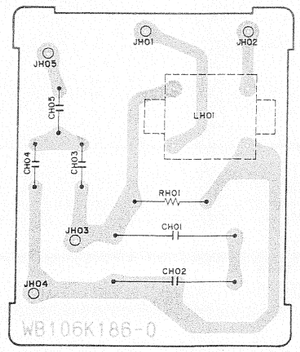
(P200) Servo



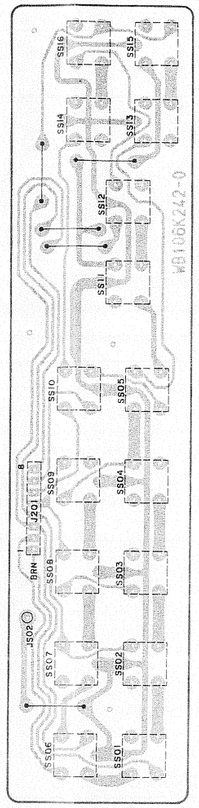
(PT10) Feater μ-com



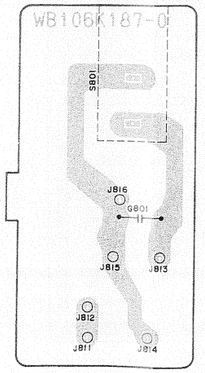
(PH00) Filter



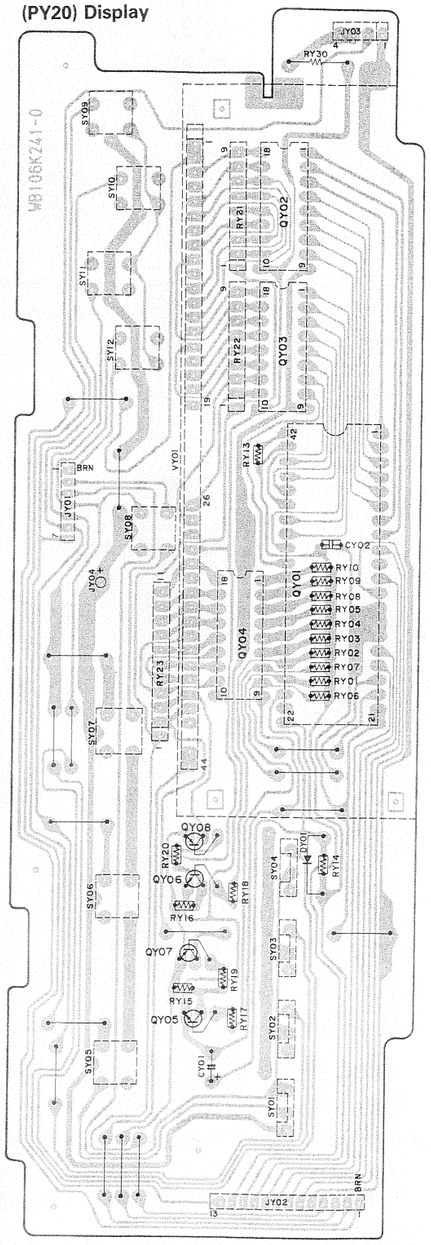
(PS20) Ten Key



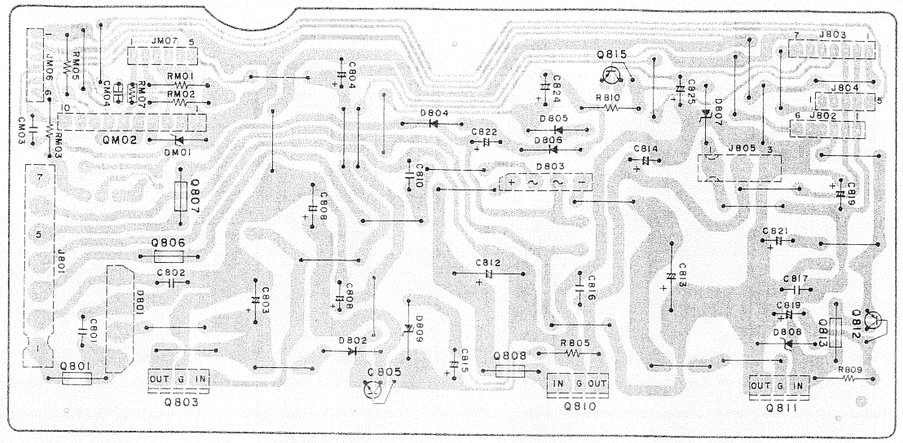
(PS10) Power Switch



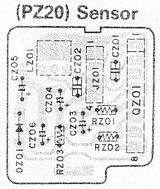
(PY20) Display



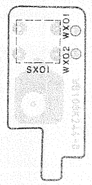
(P800) Power Supply



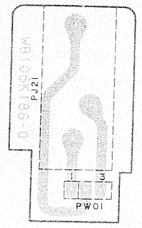
(PZ20) Sensor



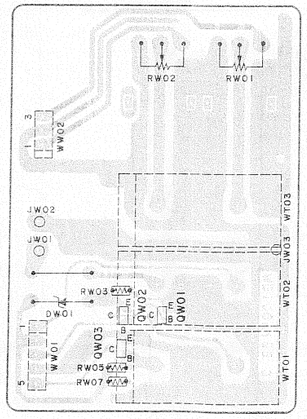
(PX20) In/Out

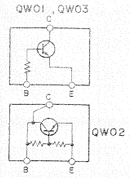


(PU10) Headphone Jack

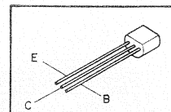


(PW10) RCA Output Pin





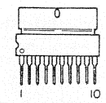
13. SEMICONDUCTORS ELECTRODES



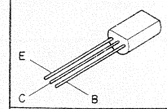
2SC945(P or Q)
(HT30945280)

2SA733(P or Q)
(HT107332A0)

FRONT VIEW



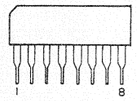
LB1645N
(HC10148030)



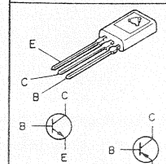
2SC1383(R,S)
(HT31383200)

2SA684(R)
(HT106841R0)

SIDE VIEW

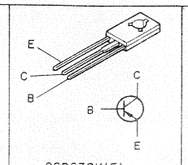


μPC1373H
(HC10071060)

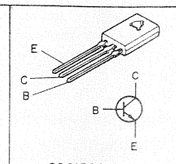


2SC2824(Y)
(HT32824IYO)

2SA1184(Y)
(HT11184IYO)

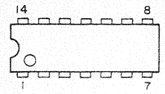


2SB632K(F)
(HT20632IFO)



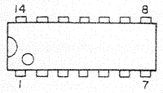
2SC1568
(HT315682AO)

TOP VIEW



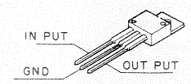
μPC324C
(HC10082060)

TOP VIEW



HD14070B
(HC10057010)

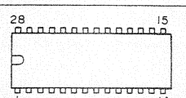
HD74LS74A
(HC10058010)



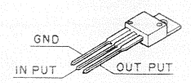
μPC7805H
(HC10056060)

μPC7812H
(HC10043060)

TOP VIEW

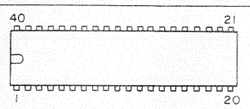


SAA7011
(HC10022270)

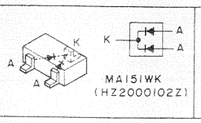


μPC7912H
(HC10044060)

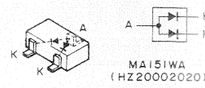
TOP VIEW



SAA7020
(HC10023270)

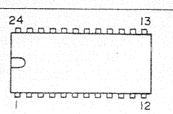


MA151WK
(HZ20001020)



MA151WA
(HZ20002020)

TOP VIEW



SAA7030
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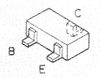
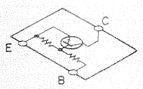
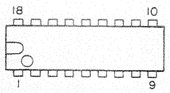


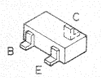


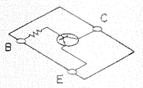
UN2114 PNP
(BA1000102Z)

TOP VIEW



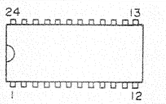
SAA7000
(HC10021270)





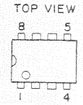
UN2215 NPN
(BA2000102Z)

TOP VIEW



μPD4016C
(HC10098060)

TOP VIEW

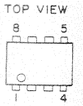


μPC339C
(HC10081060)

μPC741C
(HC10083060)

μPC393C
(HC10084060)

TOP VIEW

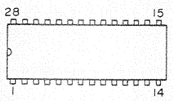


NJM2904D
(HC10030090)

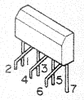
NJM4558D
(HC10003090)

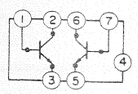
JRC4560DD
(HC10021090)

TOP VIEW



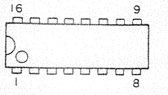
TDA1540D
(HC10025270)



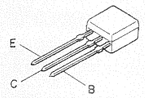


2SC3381G.R.
(HT33381IGO)

TOP VIEW



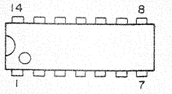
HD14053B
(HC10056010)



2SC2785(J or H)
(HT327852A1)

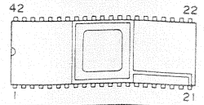
2SA1175(RF, JF)
(HT111752A1)

TOP VIEW



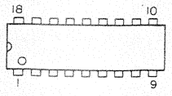
HD14025B
(HC10055010)

TOP VIEW



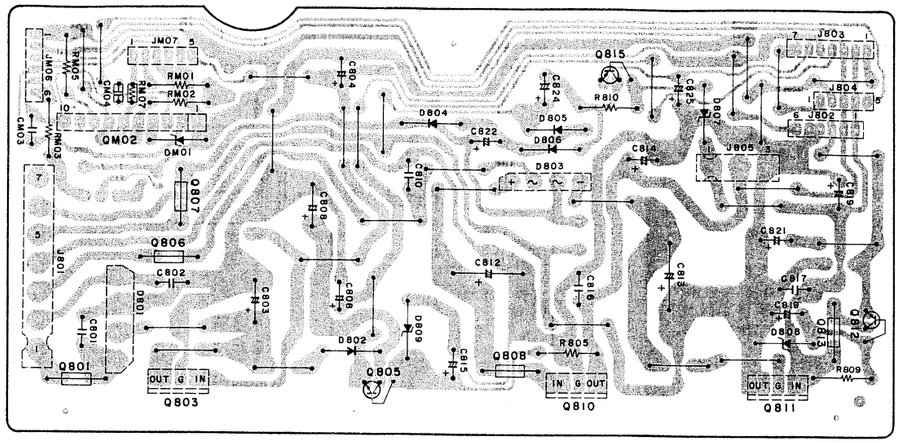
μPD1510AC
(HC10106060)

TOP VIEW

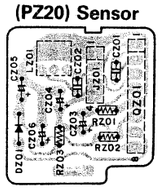


MSL918RS
(HC10004260)

(P800) Power Supply

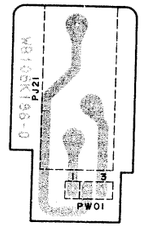


(PZ20) Sensor

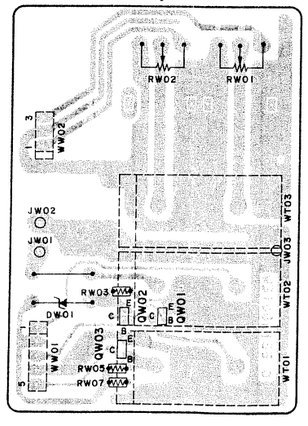


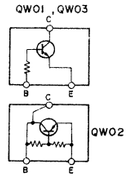
(PX20) In/Out

(PU10) Headphone Jack

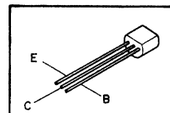
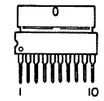
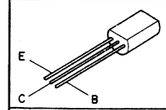
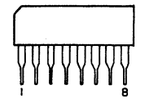
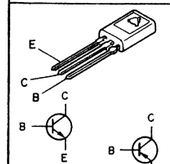
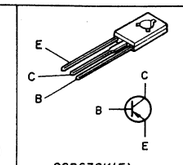
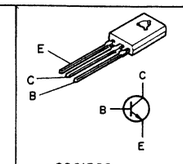
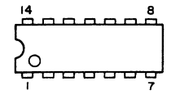
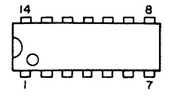
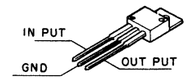
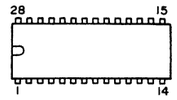
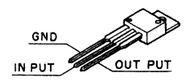
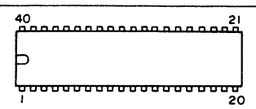
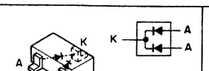
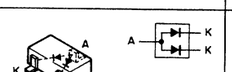
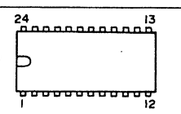
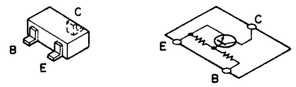
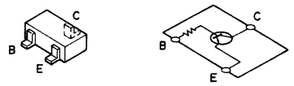
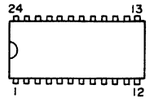
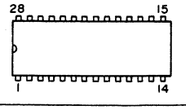
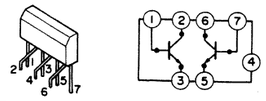
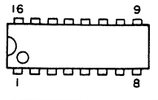
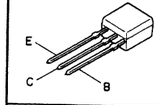
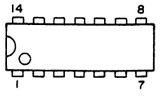
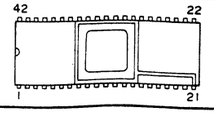
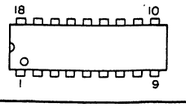


(PW10) RCA Output Pin

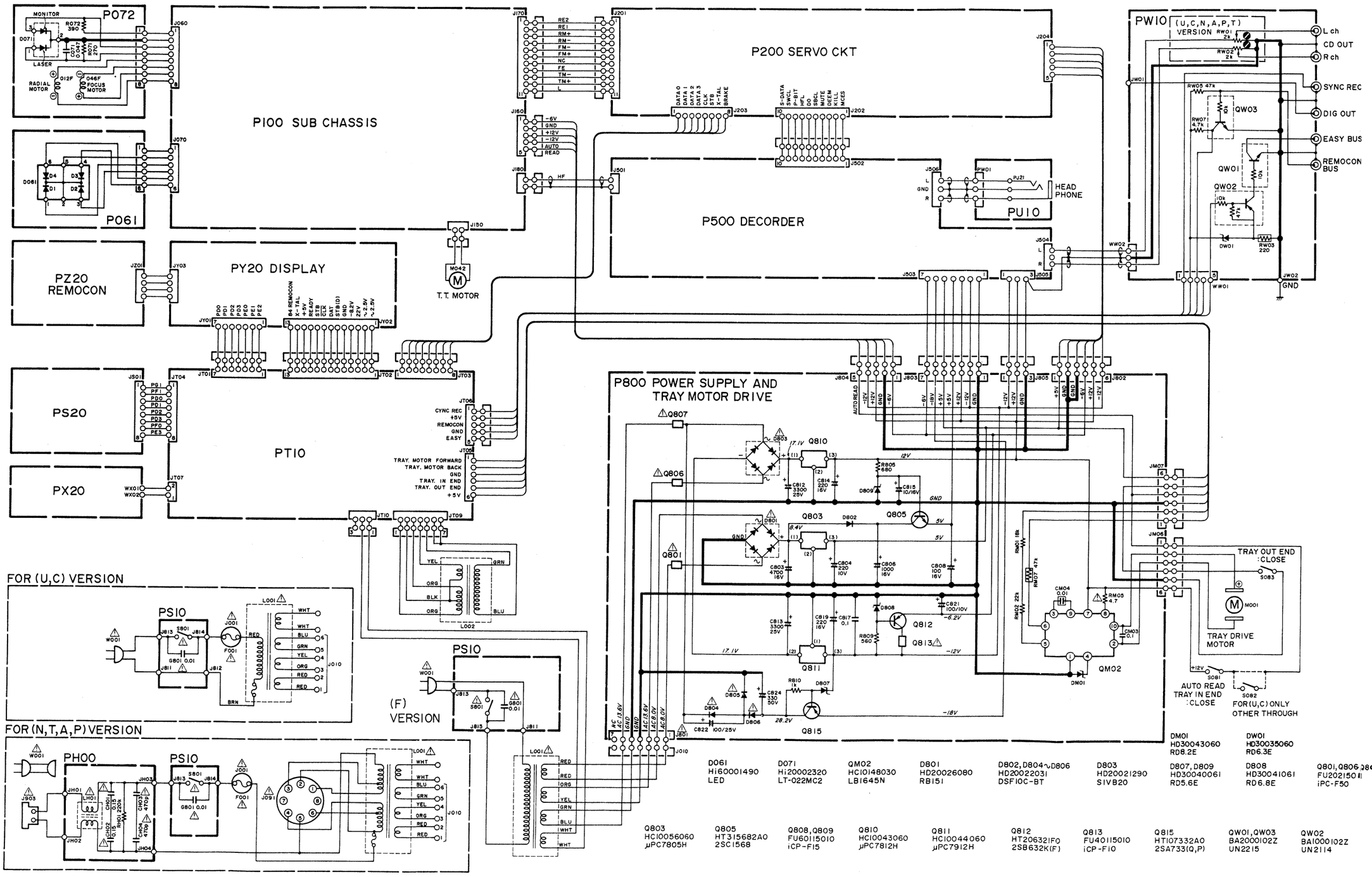




13. SEMICONDUCTORS ELECTRODES

 2SC945(P or Q) (HT30945280) 2SA733(P or Q) (HTI07332A0)	FRONT VIEW  LB1645N (HCI0148030)
 2SC1383(R,S) (HT313832C0) 2SA684(R) (HTI06841R0)	SIDE VIEW  μPC1373H (HCI0071060)
 2SC2824(Y) (HT32824IY0) 2SA1184(Y) (HT1I184IY0)  2SB632K(F) (HT20632IF0)  2SCI568 (HT315682A0)	TOP VIEW  μPC324C (HCI0082060)
	TOP VIEW  HDI4070B (HCI0057010) HD74LS74A (HCI0058010)
 μPC7805H (HCI0056060) μPC7812H (HCI0043060)	TOP VIEW  SAA7011 (HCI0022270)
 μPC7912H (HCI0044060)	TOP VIEW  SAA7020 (HCI0023270)
 MA151WK (HZ2000102Z)  MA151WA (HZ200020Z0)	TOP VIEW  SAA7030 (HCI0024270)
 UN2114 PNP (BA1000102Z)	TOP VIEW SAA7000 (HCI0021270)
 UN2215 NPN (BA2000102Z)	TOP VIEW  μPD4016C (HCI0098060)
TOP VIEW μPC339C (HCI0081060) μPC741C (HCI0083060) μPC393C (HCI0084060) TOP VIEW NJM2904D (HCI0030090) NJM4558D (HCI0003090) JRC4560DD (HCI0021090)	TOP VIEW  TDA1540D (HCI0025270)
 2SC3381G.R. (HT33381IG0)	TOP VIEW  HDI4053B (HCI0056010)
 2SC2785(J or H) (HT327852AI) 2SA1175(RF, JF) (HT1I1752AI)	TOP VIEW  HDI4025B (HCI0055010)
TOP VIEW  μPD1510AC (HCI0106060)	TOP VIEW  MSL918RS (HCI0004260)

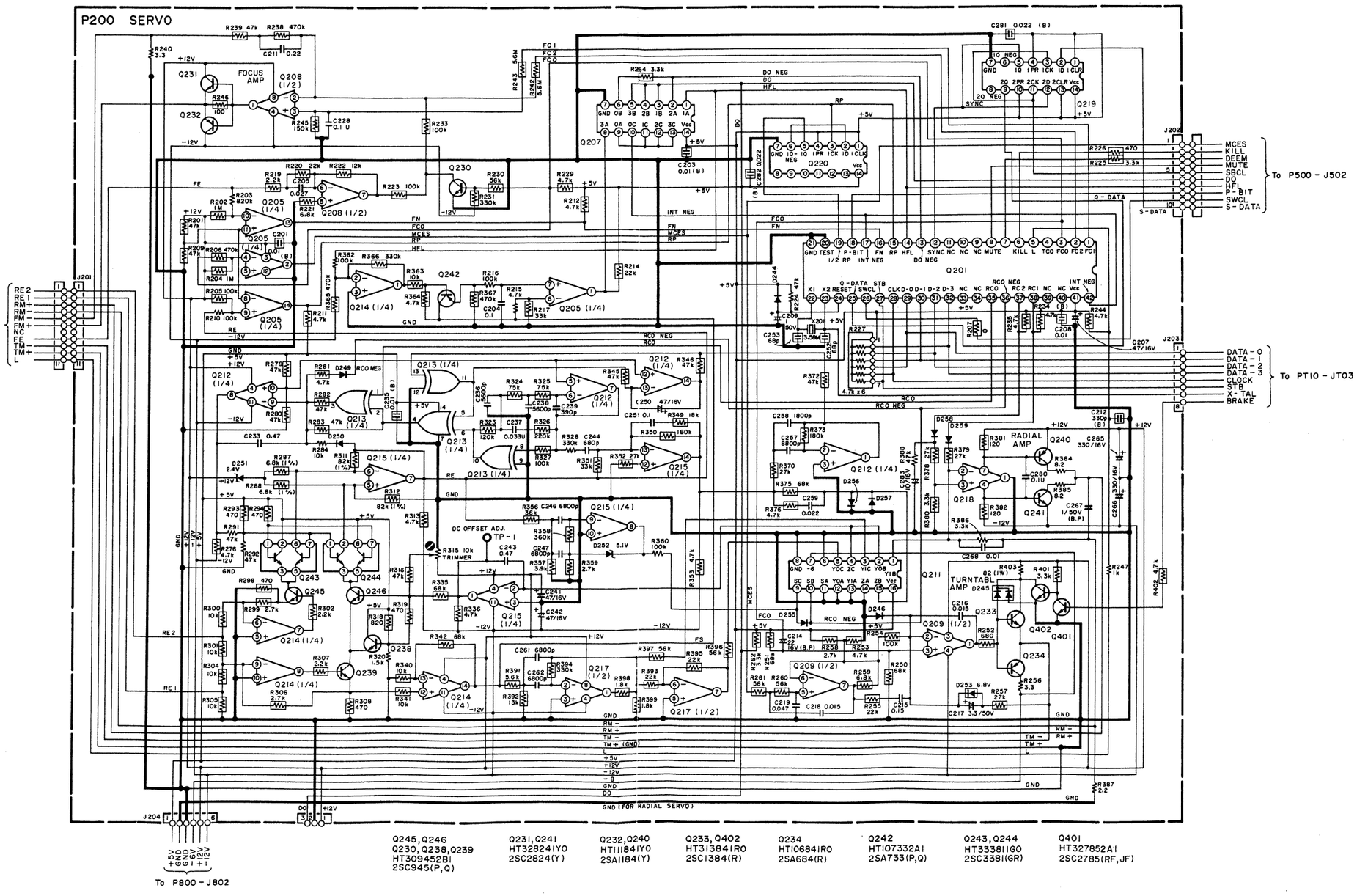
14. SCHEMATIC DIAGRAM



D061 Hi60001490 LED	D071 Hi20002320 LT-022MC2	QM02 HC10148030 LB1645N	D801 HD20026080 RB151	D802, D804~D806 HD20022031 DSF10C-BT	D803 HD20021290 S1VB20	DM01 HD30043060 RD8.2E	DW01 HD30035060 RD6.3E	Q801, Q806, Q807 FU2021501 iPC-F50

Q803 HC10056060 μPC7805H	Q805 HT315682A0 2SC1568	Q808, Q809 FU60115010 iCP-F15	Q810 HC10043060 μPC7812H	Q811 HC10044060 μPC7912H	Q812 HT20632IF0 2SB632K(F)	Q813 FU40115010 iCP-F10	Q815 HT107332A0 2SA733(Q,P)	QW01, QW03 BA2000102Z UN2215	QW02 BA1000102Z UN2114

D244, D246, D249 D250, D255~D259 HD20001001 IS2473, ISI555 DS448, MA150	D245 HZ2000102Z MA151WK	D251 HD30041010 HZ2C2	D252 HD30021061 RD5.1EB2	D253 HZ3000102Z MA3068M	Q201 HCI0105060 μCOM SERVO	Q205 HCI0081060 μPC339C	Q207 HCI0055010 HDI4025B	Q208, Q209, Q217 HCI0003090 NJM4558D	Q211 HCI0056010 HDI4053B	Q212, Q214, Q215 HCI0082060 μPC324C	Q213 HCI0057010 HDI4070B	Q218 HCI0083060 μPC741C	Q219, Q220 HCI0058010 HD74LS74A



Q245, Q246 Q230, Q238, Q239 HT309452B1 2SC945(P,Q)	Q231, Q241 HT32824IY0 2SC2824(Y)	Q232, Q240 HT1184IY0 2SA1184(Y)	Q233, Q402 HT3138 4IR0 2SC1384(R)	Q234 HT10684IR0 2SA684(R)	Q242 HT107332A1 2SA733(P,Q)	Q243, Q244 HT33381IG0 2SC3381(GR)	Q401 HT327852A1 2SC2785(RF, JF)

D545
HZ2000202Z
MAI51WA

D546, D557, D558
HD2000121 I
IS2473

D547
HD2000100 I
IS2473, IS1555, DS448, MAI50

D549, D551
HZ2000102Z
MAI51WK

D559
HZ2000502Z
MAI53

D561, D562
HD40006030
SVC321SP

Q501
HCI0022270
SAA7011

Q502~Q504
HT327852AI
2SC2785(RF, JF)

Q508
HCI0084060
μPC393C

Q510
HCI0023270
SAA7020

Q512
HCI0098060
μPD4016C

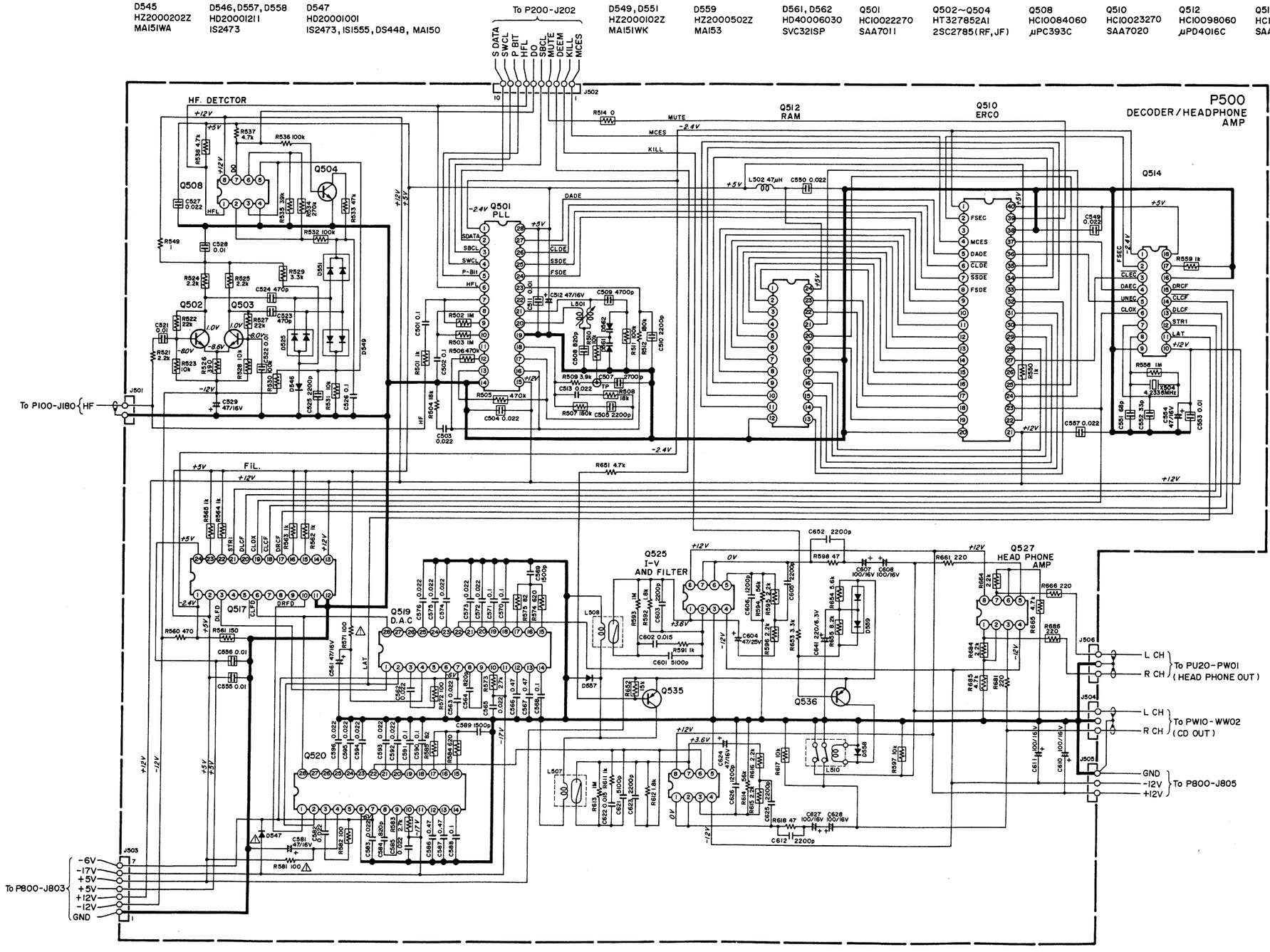
Q514
HCI0021270
SAA7000

Q517
HCI0024270
SAA7030

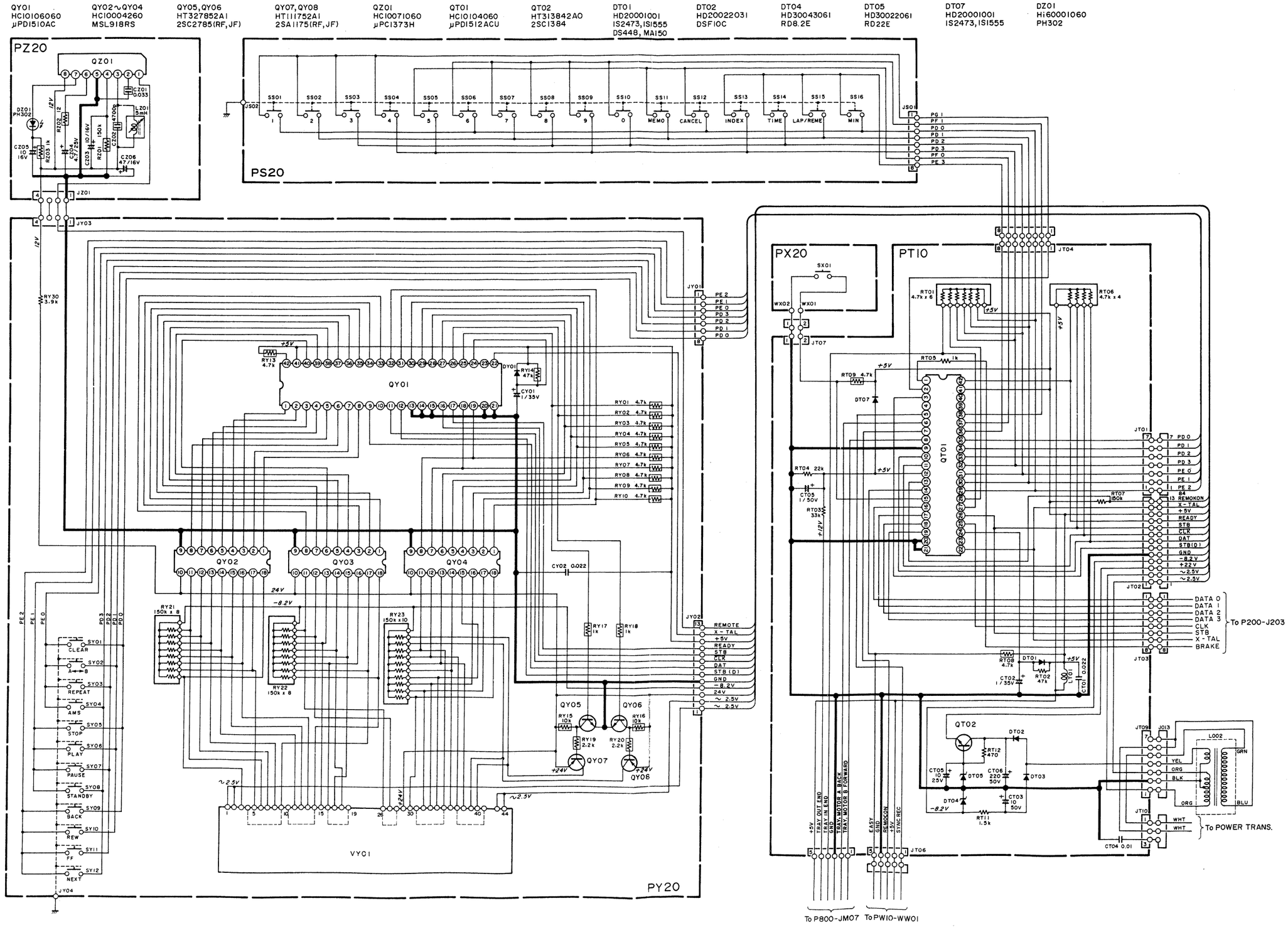
Q519, Q520
HCI0025270
TDA1540D

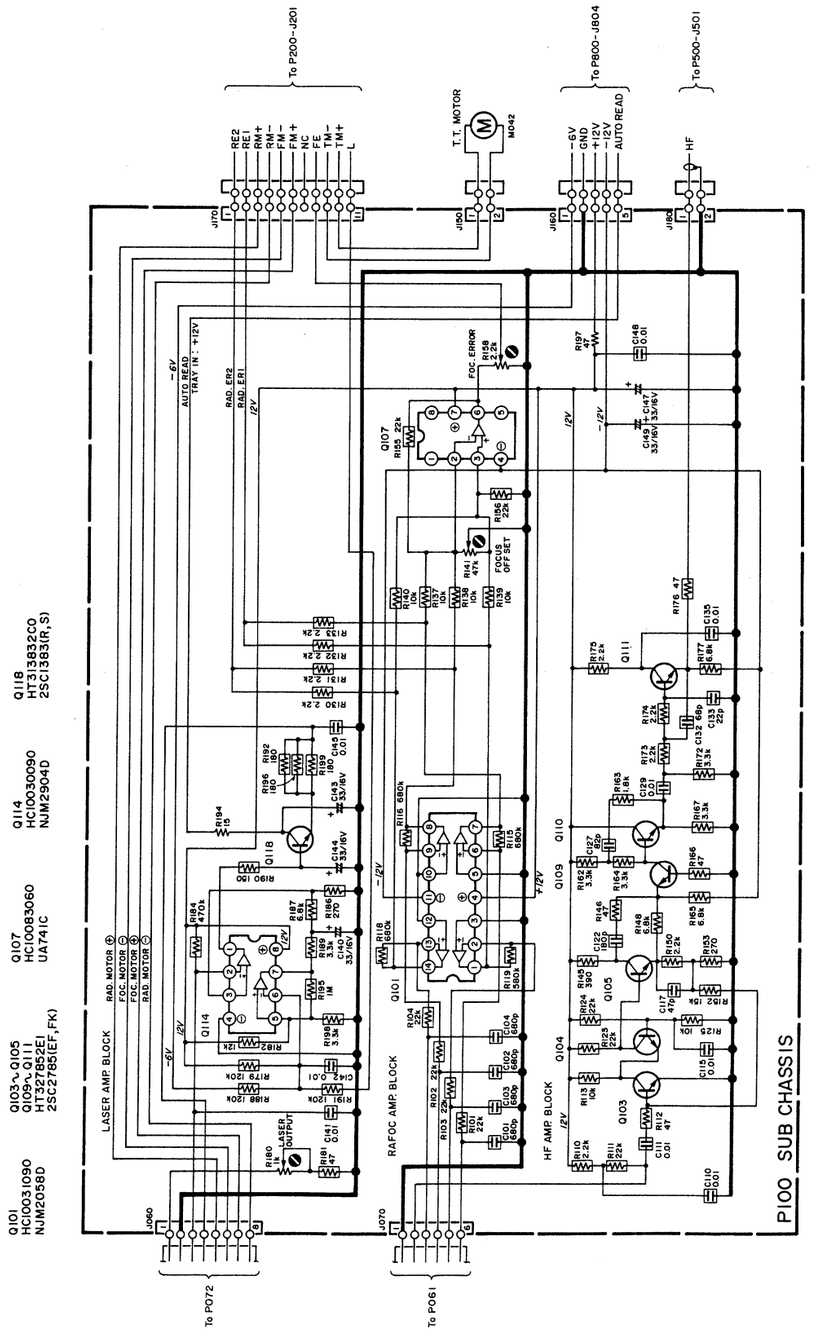
Q523, Q525, Q527
HCI0021090
JRC4560DD

Q535, Q536
HTI1 I752AI
2SAI175(RF, JF)

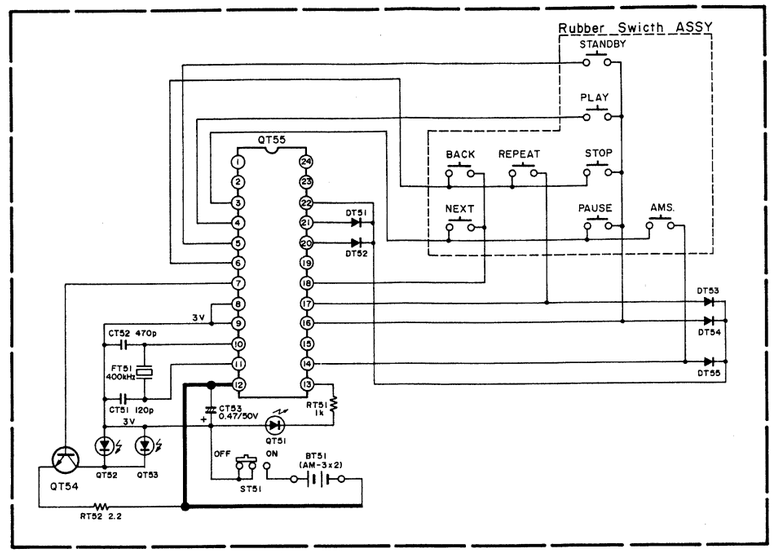


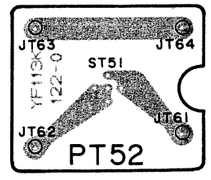
QY01	QY02~QY04	QY05,QY06	QY07,QY08	QZ01	QT01	QT02	DT01	DT02	DT04	DT05	DT07	DZ01
HC10106060 µPD1510AC	HC10004260 MSL918RS	HT327852A1 2SC2785(RF,JF)	HT1111752A1 2SA1175(RF,JF)	HC10071060 µPC1373H	HC10104060 µPD1512ACU	HT313842A0 2SC1384	HD20001001 IS2473,IS1555 DS448, MA150	HD20022031 DSF10C	HD30043061 RD8.2E	HD30022061 RD22E	HD20001001 IS2473,IS1555	Hi60001060 PH302

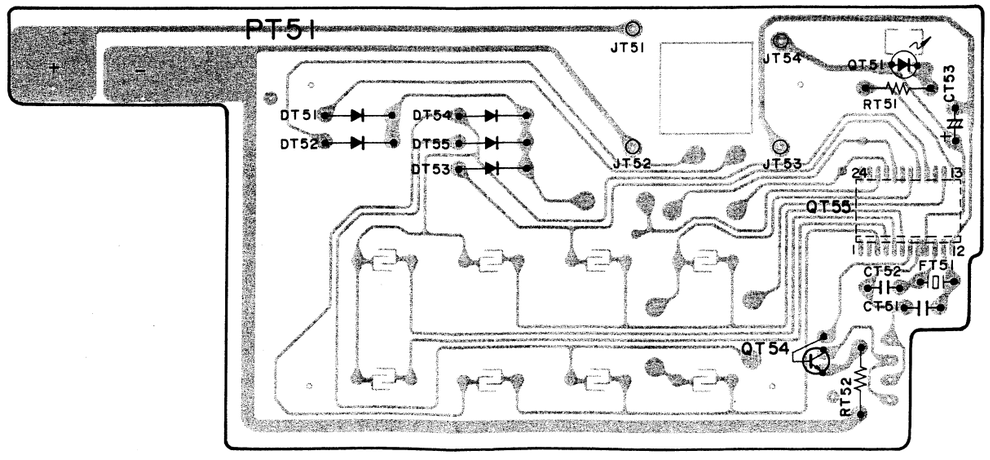




15. REMOTE CONTROLLER (RMC-84) WIRING DIAGRAM AND SHEMATIC DIAGRAM

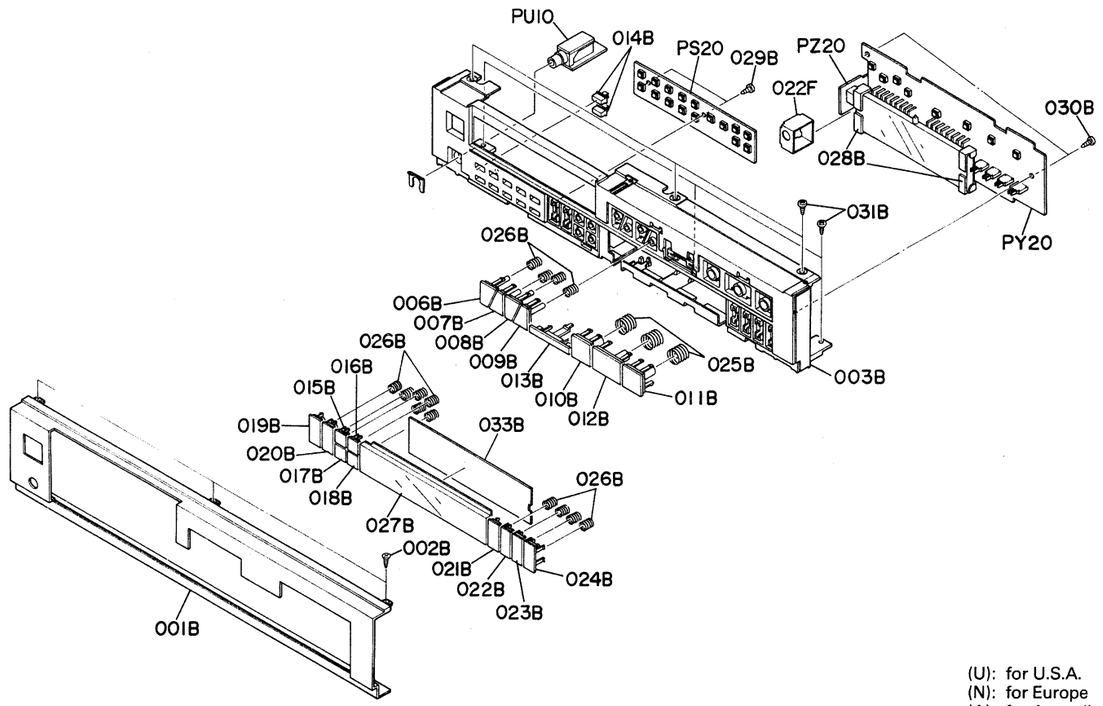






16. EXPLODED VIEWS AND PARTS LIST

[C01-99] FRONT PANEL

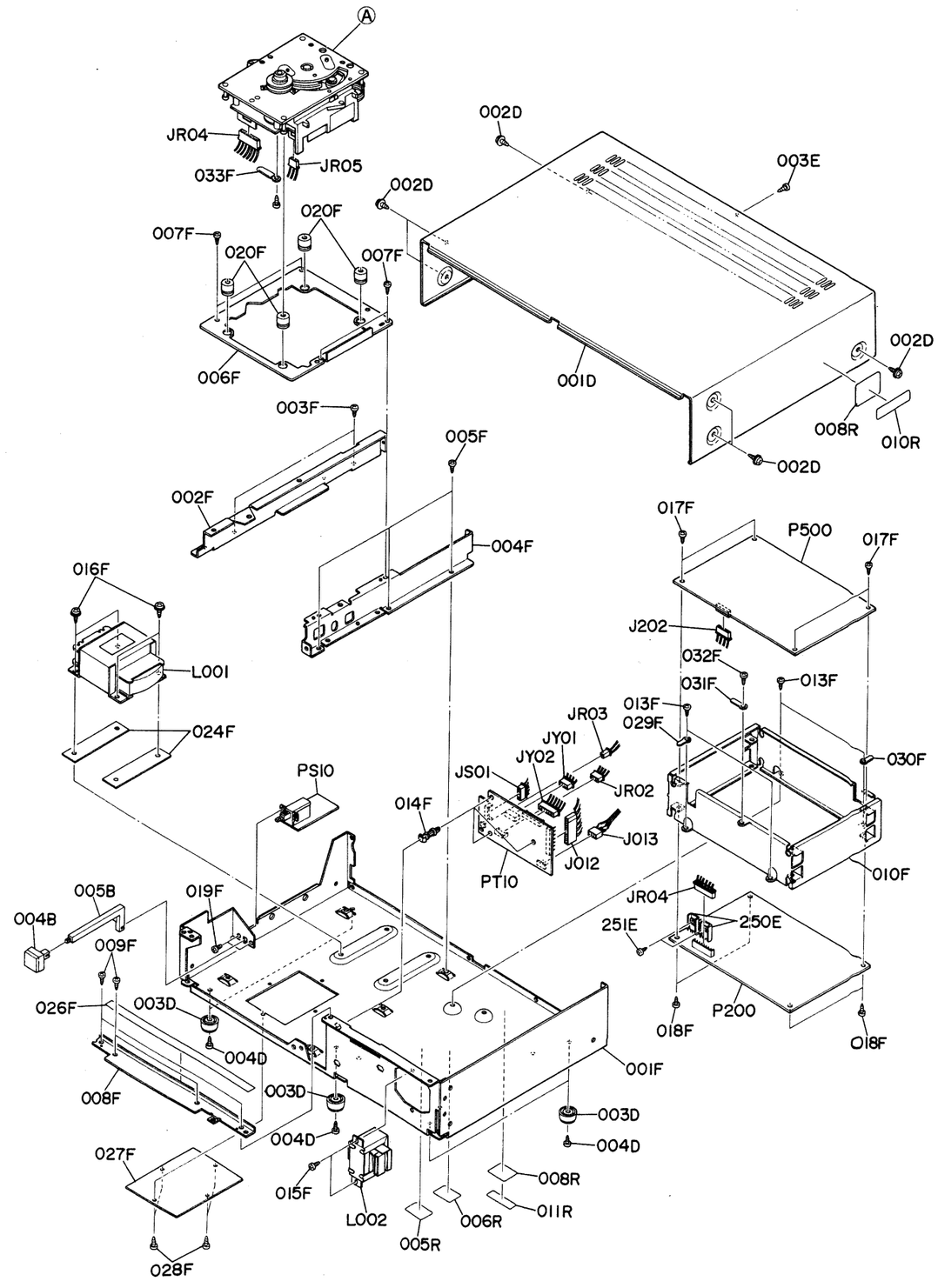


(U): for U.S.A.
(N): for Europe
(A): for Australia
(P): for P.X.
(F): for Japan

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
001B	1	1	1	1		106K248010	Panel, Front
001B					1	106K248050	Panel, Front (BLK)
002B	3	3	3	3	3	51500306B0	F.H. Tapped Screw F3 x 6
003B	1	1	1	1		106K248020	Sub Panel, Front
003B					1	106K248060	Sub Panel, Front
006B	1	1	1	1		106K270050	Button, Back
006B					1	106K270260	Button, Back
007B	1	1	1	1		106K270200	Button, REW
007B					1	106K270270	Button, REW
008B	1	1	1	1		106K270210	Button, FF
008B					1	106K270280	Button, FF
009B	1	1	1	1		106K270220	Button, Next
009B					1	106K270290	Button, Next
010B	1	1	1	1		106K270060	Button, Pause
010B					1	106K270300	Button, Pause
011B	1	1	1	1		106K270230	Button, Stop
011B					1	106K270310	Button, Stop
012B	1	1	1	1		106K270070	Button, Play
012B					1	106K270320	Button, Play
013B	1	1	1	1		106K270080	Button, Standby
013B					1	106K270330	Button, Standby
014B	10	10	10	10	10	106K270030	Button, Ten-key
015B	1	1	1	1	1	106K270020	Button, Index
016B	1	1	1	1	1	106K270120	Button, Lap
017B	1	1	1	1	1	106K270130	Button, Time

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
018B	1	1	1	1	1	106K270140	Button, Min
019B	1	1	1	1	1	106K270040	Button, Memo
020B	1	1	1	1	1	106K270150	Button, Cancel
021B	1	1	1	1	1	106K270160	Button, AMS
022B	1	1	1	1	1	106K270170	Button, Repeat
023B	1	1	1	1	1	106K270180	Button, A & B
024B	1	1	1	1	1	106K270190	Button, Clear
025B	3	3	3	3	3	106K115020	Spring, (L)
026B	14	14	14	14	14	106K115030	Spring, (S)
027B	1	1	1	1	1	106K158010	Window
028B	2	2	2	2	2	106K271020	Holder, Digitron
029B	2	2	2	2	2	51280306B0	B.H. Tapped Screw B3 x 6
030B	2	2	2	2	2	51280306B0	B.H. Tapped Screw B3 x 6
031B	6	6	6	6	6	51280306B0	B.H. Tapped Screw B3 x 6
033B	1	1	1	1	1	106K303010	Mask, Display
022F	1	1	1	1	1	106K109040	Shield, Remocon

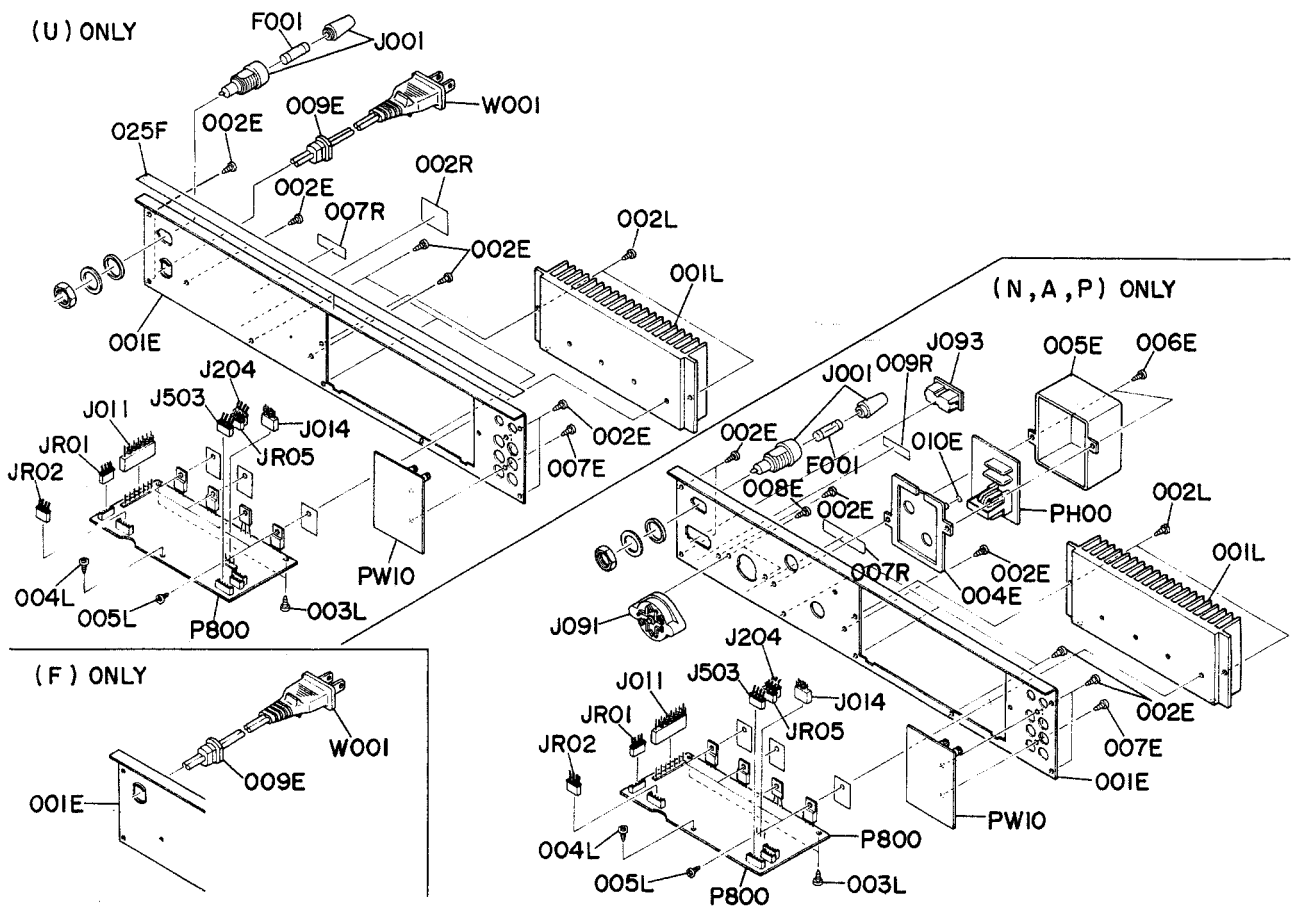
[C02-99] LID (Top/Bottom) & GENERAL PARTS



REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
004B	1	1	1	1		106K270010	Button, Power Switch
004B					1	106K270250	Button, Power Switch
005B	1	1	1	1	1	128T121020	Link, Power Switch
001D	1	1	1	1		106K257010	Lid, Top Cover
001D					1	106K257050	Lid, Top Cover
002D	6	6	6	6		51260408Z0	B.T. Screw B4 x 8
002D					6	51260408U0	B.T. Screw B4 x 8
003D	5	5	5	5	5	416H057010	Leg
004D	5	5	5	5	5	51260308U0	B.T. Screw B3 x 8
003E	1	1	1	1	1	51280306Z0	B.H. Tapped Screw B3 x 6
250E	2	2	2	2	2	415H267010	Heatsink, (Q231, Q232)
251E	2	2	2	2	2	51280306B0	B.H. Tapped Screw B3 x 6
001F	1	1	1	1	1	106K105010	Chassis, Main
002F	1	1	1	1	1	106K160010	Bracket, (L)
003F	2	2	2	2	2	51280306B0	B.H. Tapped Screw B3 x 6
004F	1	1	1	1	1	106K160020	Bracket, (R)
005F	4	4	4	4	4	51280306B0	B.H. Tapped Screw B3 x 6
006F	1	1	1	1	1	106K160070	Bracket, Mecha
007F	4	4	4	4	4	5128O306B0	B.H. Tapped Screw B3 x 6
008F	1	1	1	1	1	106K160080	Bracket
009F	4	4	4	4	4	51280306B0	B.H. Tapped Screw B3 x 6
010F	1	1	1	1	1	106K109500	Shield Assembly
013F	4	4	4	4	4	51280306B0	B.H. Tapped Screw B3 x 6
014F	3	3	3	3	3	105K101010	Support
015F	2	2	2	2	2	51280306B0	B.H. Tapped Screw B3 x 6
016F	4	4	4	4	4	51260408B0	B.T. Screw B4 x 8
017F	4	4	4	4	4	51280306B0	B.H. Tapped Screw B3 x 6
018F	4	4	4	4	4	51280306B0	B.H. Tapped Screw B3 x 6
019F	2	2	2	2	2	51100306A9	B.H.M. Screw B3 x 6
020F	4					101K259120	Bushing
020F		4	4	4	4	101K259050	Bushing
024F	2	2	2	2	2	106K118010	Spacer
026F	1	1	1	1	1	200T107040	Sheet

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
027F	1	1	1	1	1	106K257070	Lid, Chassis
028F	4	4	4	4	4	5128O306Z0	B.H. Tapped Screw B3 x 6
029F	1	1	1	1	1	62030049W0	Lug
030F	1	1	1	1	1	62030049W0	Lug
031F	1	1	1	1	1	62030049W0	Lug
032F	1	1	1	1	1	5128O306Z0	B.H. Tapped Screw B3 x 6
033F	1	1	1	1	1	4220005030	Clamper
005R	1					101K861100	Label, Danger
006R		1	1			105K861070	Label, Class-1
008R		1				117H861010	Label
010R		1	1			2911861140	Label
011R		1	1			2911861110	Label
J012	1	1	1	1	1	YJ06001260	Jack, 7P
J013	1	1	1	1	1	YJ06001040	Jack, 3P
J202	1	1	1	1	1	YB00120110	Connective Cord, 10P
JR02	1	1	1	1	1	YB00320130	Connective Cord, 6P
JR03	1	1	1	1	1	YB00550060	Connective Cord, 2P
JR04	1	1	1	1	1	YB00210080	Connective Cord, 11P
JR05	1	1	1	1	1	YB00420110	Connective Cord, 5P
JS01	1	1	1	1	1	YB00230190	Connective Cord, 8P
JY01	1	1	1	1	1	YB00120150	Connective Cord, 7P
JY02	1	1	1	1	1	YB00230200	Connective Cord, 13P
⚠L001	1					TS17202020	Power Transformer, Main
⚠L001		1	1	1		TS17202030	Power Transformer, Main
⚠L001					1	TS17202010	Power Transformer, Main
⚠L002	1	1	1	1	1	TS14139010	Power Transformer, Sub
A	1	1	1	1	1	107K105400	CDP-3 Assembly, HF-AMP+CHASSIS(K)

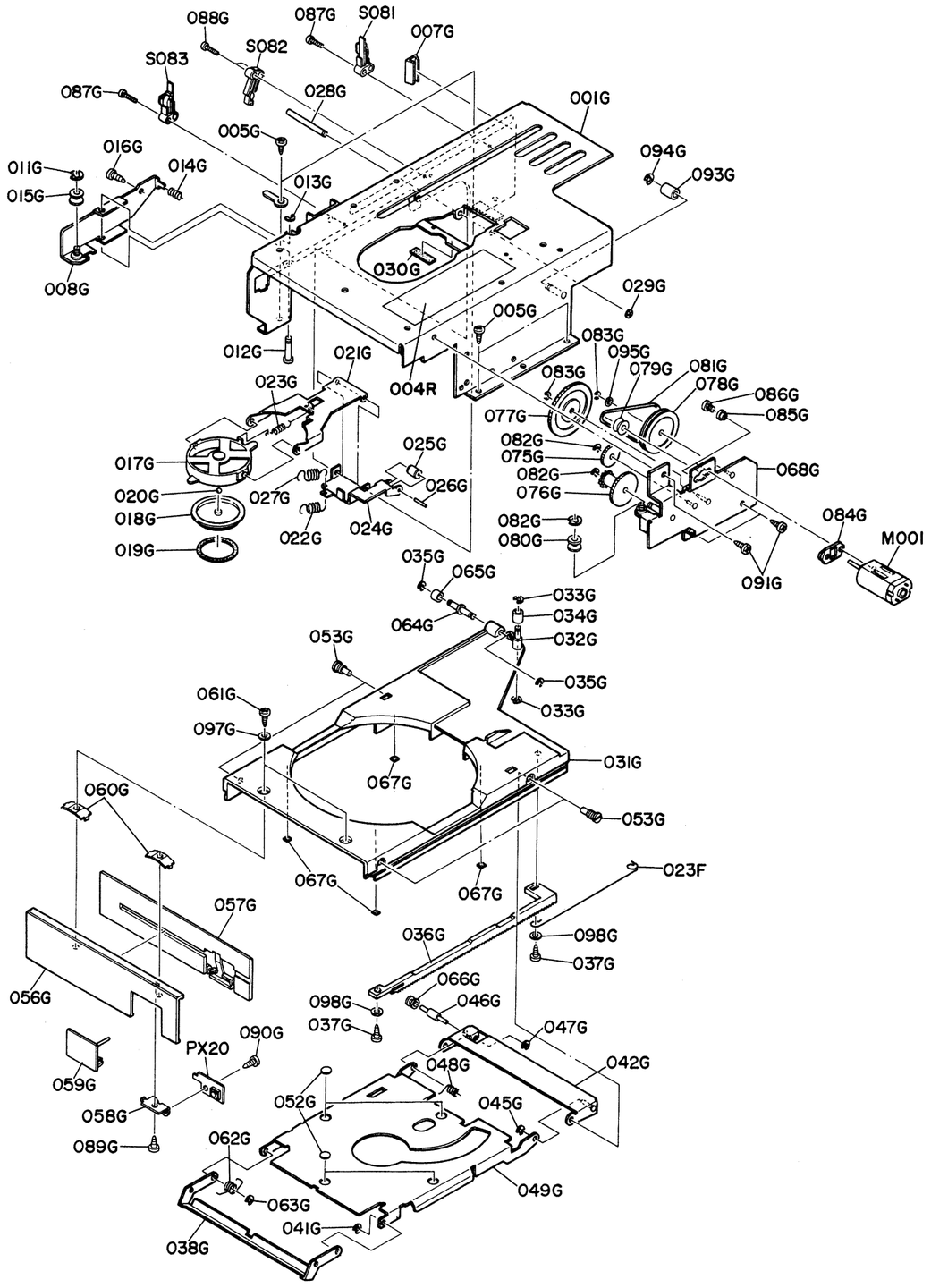
[C03-99] REAR PANEL



REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
001E	1					106K250030	Rear Panel
001E		1	1	1		106K250020	Rear Panel
001E					1	106K250010	Rear Panel
002E	9	9	9	9	9	51280306U0	B.H. Tapped Screw B3 x 6
004E		1	1	1		101K064020	Case, Filter; Bottom
005E		1	1	1		101K064030	Case, Filter; Top
006E		2	2	2		51280310U0	B.H. Tapped Screw B3 x 10
007E	2	2	2	2	2	51280308U0	B.H. Tapped Screw B3 x 8
008E		2	2	2		51280308U0	B.H. Tapped Screw B3 x 8
009E	1				1	1455259090	Bushing, AC Power Cord
010E		1	1	1		101K056020	Buffer, Filter Case
025F	1	1	1	1	1	106K107010	Sheet
001L	1	1	1	1	1	106K267010	Heatsink, Main
002L	2	2	2	2	2	51280306U0	B.H. Tapped Screw B3 x 6
003L	2	2	2	2	2	51280306U0	B.H. Tapped Screw B3 x 6
004L	1	1	1	1	1	51280306B0	B.H. Tapped Screw B3 x 6
005L	4	4	4	4	4	51280308M0	B.H. Tapped Screw B3 x 8
002R					1	101K861030	Label
007R	1					2112265010	Indicator, Serial No.
007R		1	1	1	1	2112265110	Indicator, Serial No.
009R		1	1	1		4581861010	Label, Made in Japan

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
⚠F001	1					FS10100500	Fuse, 1A 250V
⚠F001		1	1			FS10025800	Fuse, 250mA 250V
⚠F001				1		FS10100700	Fuse, 1A 250V
⚠J001	1					YJ08000300	Jack, Fuse Holder
⚠J001		1	1	1		YJ08000290	Jack, Fuse Holder
J011	1	1	1	1	1	YJ06001060	Jack, 7P
J014	1	1	1	1	1	YJ06001040	Jack, 3P
J204	1	1	1	1	1	YB00280250	Connective Cord, 6P
J503	1	1	1	1	1	YB00130190	Connective Cord, 7P
⚠J091		1	1	1		BY05080050	Voltage Selector
⚠J093		1	1	1		YP04000580	Plug, AC Inlet
JR01	1	1	1	1	1	YB00480030	Connective Cord, 6P
JR02	1	1	1	1	1	YB00320130	Connective Cord, 6P
JR05	1	1	1	1	1	YB00420110	Connective Cord, 5P
⚠W001	1					YC02000160	A.C. Power Cord
⚠W001					1	YC01800200	A.C. Power Cord

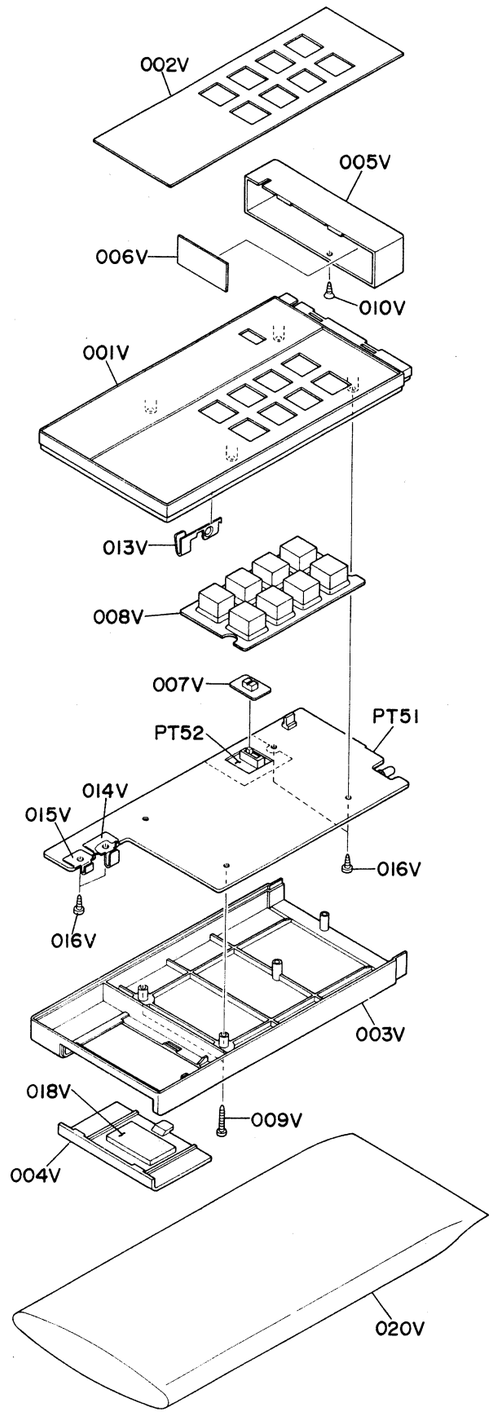
[C04-99] CHASSIS ASSEMBLY



REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
023F	1	1	1	1	1	106K005020	Clamper
001G	1	1	1	1	1	105K105510	Chassis (K)
005G	4	4	4	4	4	51280306B0	B.H. Tapped Screw B3 x 6
007G	2	2	2	2		2207259010	Bushing
008G	1	1	1	1	1	105K160510	Bracket (K), Roller
011G	1	1	1	1	1	64000200R0	RG Ring, E Type
012G	1	1	1	1	1	105K112080	Shaft, Roller Bracket
013G	1	1	1	1	1	64000200R0	RG Ring, E Type
014G	1	1	1	1	1	105K115020	Spring, Roller Bracket
015G	1	1	1	1	1	105K358010	Roller
016G	1	1	1	1	1	51280312B0	B.H. Tapped Screw B3 x 12
017G	1	1	1	1	1	105K064010	Case, Clamper
018G	1	1	1	1	1	105K005010	Clamper, Disc
019G	1	1	1	1	1	105K056020	Buffer, Clamper
020G	1	1	1	1	1	61030010T0	Ball
021G	1	1	1	1	1	105K354010	Lever, Clamper
022G	1	1	1	1	1	105K115040	Spring, Lift Up
023G	1	1	1	1	1	105K115060	Spring, Holding
024G	1	1	1	1	1	105K354030	Lever, Transmit
025G	1	1	1	1	1	105K358030	Roller, Clamper
026G	1	1	1	1	1	4367112100	Shaft, Roller
027G	1	1	1	1	1	105K115050	Spring, Over Stroke
028G	1	1	1	1	1	105K112070	Shaft, Lever
029G	1	1	1	1	1	64000200R0	RG Ring, E Type
030G	2	2	2	2	2	105K056030	Buffer
031G	1	1	1	1	1	105K163010	Tray
032G	1	1	1	1	1	105K112040	Shaft, Roller
033G	2	2	2	2	2	64000200R0	RG Ring, E Type
034G	1	1	1	1	1	105K358020	Roller
035G	2	2	2	2	2	64000200R0	RG Ring, E Type
036G	1	1	1	1	1	106K058030	Gear, Ruck
037G	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
038G	1	1	1	1	1	106K354510	Lever (K), Front
041G	1	1	1	1	1	64000200R0	RG Ring, E Type
042G	1	1	1	1	1	105K354500	Lever (K), Rear
045G	1	1	1	1	1	64000200R0	RG Ring, E Type
046G	1	1	1	1	1	105K112050	Shaft, Guide
047G	1	1	1	1	1	64000200R0	RG Ring, E Type
048G	1	1	1	1	1	105K115030	Spring, U/D
049G	1	1	1	1	1	106K163500	Tray (K), U/D
052G	4	4	4	4	4	105K056010	Buffer
053G	4	4	4	4	4	105K112020	Shaft
054G	1	1	1	1	1	51280304B0	B.H. Tapped Screw B3 x 4
056G	1	1	1	1		106K248040	Front Panel, Tray (GOLD)
056G					1	106K248070	Front Panel, Tray (BLACK)
057G	1	1	1	1	1	106K053010	Cover, Tray
058G	1	1	1	1	1	106K104020	Retainer, O/C P.W. Board
059G	1	1	1	1		106K270110	Button, O/C
059G					1	106K270340	Button, O/C
060G	2	2	2	2	2	105K116010	Spring, Leaf
061G	2	2	2	2	2	51280308U0	B.H. Tapped Screw B3 x 8

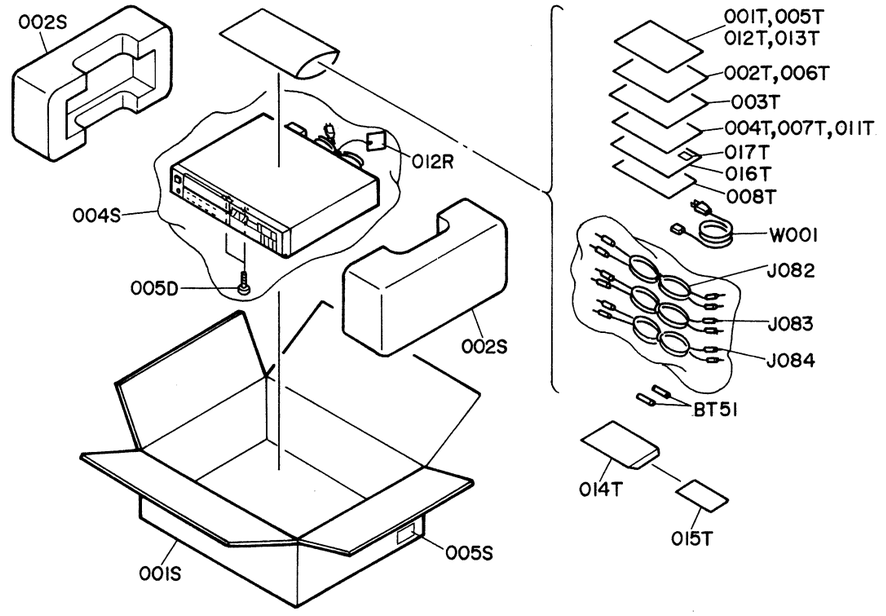
REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
062G	1	1	1	1	1	105K115100	Spring, U/D
063G	1	1	1	1	1	64002500R0	RG Ring, E Type
064G	1	1	1	1	1	105K112100	Shaft, Roller
065G	1	1	1	1	1	105K358120	Roller
066G	1	1	1	1	1	105K358040	Roller, Guide
067G	4	4	4	4	4	101K056060	Buffer
068G	1	1	1	1	1	105K160520	Bracket (K), Motor
075G	1	1	1	1	1	105K058020	Gear, Idler
076G	1	1	1	1	1	105K058030	Gear, Drive
077G	1	1	1	1	1	101K058010	Gear, Middle
078G	1	1	1	1	1	105K262010	Pulley, Middle
079G	1	1	1	1		101K262020	Pulley, Motor
080G	1	1	1	1	1	105K358010	Roller (R)
081G	1	1	1	1	1	101K264010	Belt, Dirve
082G	3	3	3	3	3	64000200R0	RG Ring, E Type
083G	2	2	2	2	2	64001500R0	RG Ring, E Type
084G	1	1	1	1	1	105K259010	Bushing, Motor
085G	2	2	2	2	2	105K055010	Collar, Motor
086G	2	2	2	2	2	51100208A0	B.H.M. Screw B2 x 8
087G	1	1	1	1	1	51100208A0	B.H.M. Screw B2 x 8
088G	2					51100208A0	B.H.M. Screw B2 x 8
089G	1	1	1	1	1	51500306B0	F.H. Tapped Screw F3 x 6
090G	1	1	1	1	1	51280305B0	B.H. Tapped Screw B3 x 5
091G	3	3	3	3	3	51280306B0	B.H. Tapped Screw B3 x 6
093G	1	1	1	1	1	106K358010	Roller, Tray Hold
094G	1	1	1	1	1	64000200R0	RG Ring, E Type
095G	1	1	1	1	1	59020401G9	Washer
097G	2	2	2	2	2	59035405G9	Washer
098G	2	2	2	2	2	59035405G9	Washer
004R	1					101K861070	Label, Laser Mark
M001	1	1	1	1	1	MM0090030	D.C. Motor, Drive
S081	1	1	1	1	1	SM01020460	Mini Switch, Door 1
S082	1					SM01020470	Mini Switch, Door 2
S083	1	1	1	1	1	SM01020460	Mini Switch, Tray Out End

[C05-99] REMOTE CONTROL (RMC-84)



REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
001V		1	1	1		116K064030	Case, Front
001V					1	116K064020	Case, Front
002V		1	1	1		116K063040	Escutcheon, Front Case
002V					1	116K063030	Escutcheon, Front Case
003V		1	1	1		017H064020	Case, Rear
003V					1	017H064320	Case, Rear
004V		1	1	1		017H064030	Case, Battery
004V					1	017H064330	Case, Battery
005V		1	1	1		017H401320	Frame, Top
005V					1	017H401220	Frame, Top
006V		1	1	1	1	017H158020	Window
007V		1	1	1		116K154020	Knob, ON/OFF
007V					1	116K154010	Knob, ON/OFF
008V		1	1	1		116K127030	Control Board
008V					1	116K127020	Control Board
009V		2	2	2		51402612R0	B.H. Tapped Screw B2.6 x 12
009V					2	51402612T0	B.H. Tapped Screw B2.6 x 12
010V		1	1	1		51420206R0	O.C.H. Tapped Screw O2 x 6
010V					1	51420206T0	O.C.H. Tapped Screw O2 x 6
013V		1	1	1	1	116K123010	Contactor
014V		1	1	1	1	017H123010	Contactor
015V		1	1	1	1	017H123030	Contactor
016V		4	4	4	4	51302606B0	P.H. Tapped Screw P2.6 x 6
018V		1	1	1	1	4724056010	Buffer
020V		1	1	1	1	9011325010	Polyethylene Bag

[P01-99] PACKING MATERIALS



REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
001S	1					106K801020	Packing Case
001S		1	1	1	1	106K801010	Packing Case
002S	2	2	2	2	2	106K809010	Cushion
004S	1	1	1	1	1	9090808030	Polyethylene Sheet
005S	2					9526019010	Serial No. Card
005S		4				9526019060	Serial No. Card
005S			4			9526019030	Serial No. Card
005S				4		9526019050	Serial No. Card
005S					4	9526019040	Serial No. Card
001T		1	1	1		106K851310	User Manual
002T		1	1	1		106K851320	User Manual, Spec
003T		1				106K856010	Circuit Diagram
004T			1			9631000090	Warrantee Card
005T	1					106K851210	User Manual
006T	1					106K851220	User Manual, Spec
007T	1					103H854010	Warrantee Card
008T	1					2225813010	Envelope
011T				1		416H854010	Warrantee Card
012T				1		3435851210	User Manual
013T					1	106K851110	User Manual
014T					1	9631000130	Warrantee Card
015T					1	128T854010	Warrantee Card
016T					1	9611000050	User's Card
017T					1	9540000010	Licnece

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
005D	2	2	2	2	2	51100345Y9	B.H.M.Screw(RED) B3 x 45
012R	1					9560000100	Hang Tag
BT51		2	2	2	2	ZB05030010	Battery, AM-3
J082	1	1	1	1	1	ZD01000170	Connective Cord, Audio Out
J083	1	1	1	1	1	ZD01000220	Connective Cord, Easy Out
J084	1	1	1	1	1	ZD01000250	Connective Cord, Remote
⚠W001		1				ZC01805010	A.C. Power Cord
⚠W001			1			ZC02006020	A.C. Power Cord
⚠W001				1		ZC01807010	A.C. Power Cord

17. ELECTRICAL PARTS LIST

(U): for U.S.A.
(N): for Europe
(A): for Australia
(P): for P.X.
(F): for Japan

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
							P200-SERVO CIRCUIT BOARD
P200	1	1	1	1	1	WB106K1820	P.W. Board, Servo
	1	1	1	1		ZZ106K1820	P.W. Board Assembly
							P200-CAPACITORS
C201	1	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%,Chip
C203	1	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%,Chip
C204	1	1	1	1	1	DF15104310	Film 0.1μF ±5%
C205	1	1	1	1	1	DF15273310	Film 0.027μF ±5%
C207	1	1	1	1	1	OA47601610	Elect 47μF 16V
C208	1	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%,Chip
C209	1	1	1	1	1	OA10505010	Elect 1μF 50V
C211	1	1	1	1	1	DF15224350	Film 0.22μF ±5%
C212	1	1	1	1	1	DK46331300	Ceramic 330pF ±10%,Chip
C214	1	1	1	1	1	EA22601630	Elect 22μF 16V
C215	1	1	1	1	1	DF15154310	Film 0.15μF ±5%
C216	1	1	1	1	1	DF15153310	Film 0.015μF ±5%
C217	1	1	1	1	1	OA33505010	Elect 3.3μF 50V
C218	1	1	1	1	1	DF15153310	Film 0.015μF ±5%
C219	1	1	1	1	1	DF15473310	Film 0.047μF ±5%
C228	1	1	1	1	1	DF15104310	Film 0.1μF ±5%
C233	1	1	1	1	1	DF15474350	Film 0.47μF ±5%
C235	1	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%,Chip
C236	1	1	1	1	1	DF15562310	Film 5600pF ±5%
C237	1	1	1	1	1	DF15333310	Film 0.033μF ±5%
C238	1	1	1	1	1	DF15562310	Film 5600pF ±5%
C239	1	1	1	1	1	DF74391030	Film 390pF ±2%
C241	1	1	1	1	1	OA47601610	Elect 47μF 16V
C242	1	1	1	1	1	OA47601610	Elect 47μF 16V
C243	1	1	1	1	1	DF15474350	Film 0.47μF ±5%
C244	1	1	1	1	1	DF74681030	Film 680pF ±2%
C246	1	1	1	1	1	DF74682010	Film 6800pF ±2%
C247	1	1	1	1	1	DF74682010	Film 6800pF ±2%
C250	1	1	1	1	1	OA47601610	Elect 47μF 16V
C251	1	1	1	1	1	DF15104310	Film 0.1μF ±5%
C252	1	1	1	1	1	DD45680300	Ceramic 68pF ±5%,Chip
C253	1	1	1	1	1	DD45680300	Ceramic 68pF ±5%,Chip
C256	1	1	1	1	1	DF15182310	Film 1800pF ±5%
C257	1	1	1	1	1	DF15682310	Film 6800pF ±5%
C259	1	1	1	1	1	DF15223310	Film 0.022μF ±5%
C261	1	1	1	1	1	DF74682010	Film 6800pF ±2%
C262	1	1	1	1	1	DF74682010	Film 6800pF ±2%
C265	1	1	1	1	1	OA33701610	Elect 330μF 16V
C266	1	1	1	1	1	OA33701610	Elect 330μF 16V
C267	1	1	1	1	1	EQ10505030	Elect 1μF 50V
C268	1	1	1	1	1	DF16103310	Film 0.01μF ±10%
C280	1	1	1	1	1	DF15104310	Film 0.1μF ±5%
C281	1	1	1	1	1	DK46223200	Ceramic 0.022μF ±10%,Chip
C282	1	1	1	1	1	DK46223200	Ceramic 0.022μF ±10%,Chip
C283	1	1	1	1	1	OA10601610	Elect 10μF 16V
							P200-RESISTORS (All Resistors are ±5% & 1/8W)
R201	1	1	1	1	1	RI05473180	47KΩ, Chip
R202	1	1	1	1	1	RI05105180	1MΩ, Chip
R203	1	1	1	1	1	GD05824140	820KΩ ¼W
R204	1	1	1	1	1	RI05105180	1MΩ, Chip
R205	1	1	1	1	1	RI05104180	100KΩ, Chip
R206	1	1	1	1	1	RI05474180	470KΩ, Chip
R207	1	1	1	1	1	RI05000180	0Ω, Chip
R209	1	1	1	1	1	RI05473180	47KΩ, Chip
R210	1	1	1	1	1	GD05104140	100KΩ ¼W
R211	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R212	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R214	1	1	1	1	1	RI05223180	22KΩ, Chip
R215	1	1	1	1	1	GD05472140	4.7KΩ ¼W
R216	1	1	1	1	1	GD05104100	100KΩ ¼W
R217	1	1	1	1	1	RI05333180	33KΩ, Chip
R219	1	1	1	1	1	RI05222180	2.2KΩ, Chip
R220	1	1	1	1	1	RI05223180	22KΩ, Chip
R221	1	1	1	1	1	RI05682180	6.8KΩ, Chip
R222	1	1	1	1	1	RI05123180	12KΩ, Chip
R223	1	1	1	1	1	RI05104180	100KΩ, Chip
R224	1	1	1	1	1	GD05473140	47KΩ ¼W
R227	1	1	1	1	1	BW05472020	4.7KΩ x 6, Composite
R229	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R230	1	1	1	1	1	RI05563180	56KΩ, Chip
R231	1	1	1	1	1	RI05334180	330KΩ, Chip
R233	1	1	1	1	1	RI05104180	100KΩ, Chip
R234	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R235	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R238	1	1	1	1	1	RI05474180	470KΩ, Chip
R239	1	1	1	1	1	RI05473180	47KΩ, Chip
R240	1	1	1	1	1	GD05033140	3.3Ω ¼W
R242	1	1	1	1	1	RI05565180	5.6MΩ, Chip
R243	1	1	1	1	1	RI05565180	5.6MΩ, Chip
R244	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R245	1	1	1	1	1	RI05154180	150KΩ, Chip
R246	1	1	1	1	1	RI05101180	100Ω, Chip
R247	1	1	1	1	1	GD05102140	1KΩ ¼W
R250	1	1	1	1	1	RI05683180	68KΩ, Chip
R251	1	1	1	1	1	RI05683180	68KΩ, Chip
R252	1	1	1	1	1	RI05681180	680Ω, Chip
R253	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R254	1	1	1	1	1	RI05104180	100KΩ, Chip
R255	1	1	1	1	1	RI05223180	22KΩ, Chip
R256	1	1	1	1	1	GA05033020	3.3Ω 2W
R257	1	1	1	1	1	RI05273180	27KΩ, Chip
R258	1	1	1	1	1	RI05272180	2.7KΩ, Chip
R259	1	1	1	1	1	RI05682180	6.8KΩ, Chip
R260	1	1	1	1	1	RI05563180	56KΩ, Chip
R261	1	1	1	1	1	RI05563180	56KΩ, Chip
R262	1	1	1	1	1	RI05332180	3.3KΩ, Chip
R264	1	1	1	1	1	RI05332180	3.3KΩ, Chip
R276	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R279	1	1	1	1	1	RI01473180	47KΩ, Chip ±1%
R280	1	1	1	1	1	RI01473180	47KΩ, Chip ±1%
R281	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R282	1	1	1	1	1	RI05473180	47KΩ, Chip
R283	1	1	1	1	1	RI05473180	47KΩ, Chip
R284	1	1	1	1	1	GD05103140	10KΩ ¼W
R287	1	1	1	1	1	RI01682180	6.8KΩ, Chip ±1%
R288	1	1	1	1	1	RI01682180	6.8KΩ, Chip ±1%
R291	1	1	1	1	1	GD05473140	47KΩ ¼W
R292	1	1	1	1	1	GD05473140	47KΩ ¼W
R293	1	1	1	1	1	RI05471180	470Ω, Chip
R294	1	1	1	1	1	RI05471180	470Ω, Chip
R298	1	1	1	1	1	RI05471180	470Ω, Chip
R299	1	1	1	1	1	RI05272180	2.7KΩ, Chip

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
R300	1	1	1	1	1	RI05103180	10KΩ, Chip
R301	1	1	1	1	1	RI05103180	10KΩ, Chip
R302	1	1	1	1	1	RI05222180	2.2KΩ, Chip
R304	1	1	1	1	1	RI05103180	10KΩ, Chip
R305	1	1	1	1	1	RI05103180	10KΩ, Chip
R306	1	1	1	1	1	RI05272180	2.7KΩ, Chip
R307	1	1	1	1	1	RI05222180	2.2KΩ, Chip
R308	1	1	1	1	1	RI05471180	470Ω, Chip
R311	1	1	1	1	1	RI01823180	82KΩ, Chip ±1%
R312	1	1	1	1	1	RI01823180	82KΩ, Chip ±1%
R313	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R315	1	1	1	1	1	RA01030630	10KΩ, Trimming
R316	1	1	1	1	1	RI05473180	47KΩ, Chip
R318	1	1	1	1	1	RI05821180	820Ω, Chip
R319	1	1	1	1	1	RI05471180	470Ω, Chip
R320	1	1	1	1	1	GD05152140	1.5KΩ ¼W
R323	1	1	1	1	1	RI05124180	120KΩ, Chip
R324	1	1	1	1	1	RI05753180	75KΩ, Chip
R325	1	1	1	1	1	RI05753180	75KΩ, Chip
R326	1	1	1	1	1	RI05224180	220KΩ, Chip
R327	1	1	1	1	1	RI05104180	100KΩ, Chip
R328	1	1	1	1	1	GD05334140	330KΩ ¼W
R335	1	1	1	1	1	RI05683180	68KΩ, Chip
R336	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R340	1	1	1	1	1	RI05103180	10KΩ, Chip
R341	1	1	1	1	1	RI05103180	10KΩ, Chip
R342	1	1	1	1	1	RI05683180	68KΩ, Chip
R345	1	1	1	1	1	RI05473180	47KΩ, Chip
R346	1	1	1	1	1	RI05473180	47KΩ, Chip
R349	1	1	1	1	1	RI05183180	18KΩ, Chip
R350	1	1	1	1	1	RI05184180	180KΩ, Chip
R351	1	1	1	1	1	RI05333180	33KΩ, Chip
R352	1	1	1	1	1	RI05273180	27KΩ, Chip
R353	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R356	1	1	1	1	1	RI05363180	36KΩ, Chip
R357	1	1	1	1	1	RI05392180	3.9KΩ, Chip
R358	1	1	1	1	1	RI05364180	360KΩ, Chip
R359	1	1	1	1	1	RI05272180	2.7KΩ, Chip
R360	1	1	1	1	1	RI05104140	100KΩ, Chip
R362	1	1	1	1	1	RI05104140	100KΩ, Chip
R363	1	1	1	1	1	RI05103180	10KΩ, Chip
R364	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R365	1	1	1	1	1	RI05474180	470KΩ, Chip
R366	1	1	1	1	1	RI05334180	330KΩ, Chip
R367	1	1	1	1	1	RI05474180	470KΩ, Chip
R370	1	1	1	1	1	RI05273180	27KΩ, Chip
R372	1	1	1	1	1	RI05473180	47KΩ, Chip
R373	1	1	1	1	1	RI05184180	180KΩ, Chip
R375	1	1	1	1	1	RI05683180	68KΩ, Chip
R376	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R378	1	1	1	1	1	RI05273180	27KΩ, Chip
R379	1	1	1	1	1	RI05273180	27KΩ, Chip
R380	1	1	1	1	1	RI05332180	3.3KΩ, Chip
R381	1	1	1	1	1	RI05121180	120Ω, Chip
R382	1	1	1	1	1	RI05121180	120Ω, Chip
R384	1	1	1	1	1	GA05082020	8.2Ω 2W
R385	1	1	1	1	1	GA05082020	8.2Ω 2W
R386	1	1	1	1	1	GD05332140	3.3KΩ ¼W
R387	1	1	1	1	1	GD05022140	2.2Ω ¼W

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
R388	1	1	1	1	1	GD05473140	47KΩ ¼W
R391	1	1	1	1	1	RI05562180	5.6KΩ, Chip
R392	1	1	1	1	1	RI05133180	13KΩ, Chip
R393	1	1	1	1	1	RI05223180	22KΩ, Chip
R394	1	1	1	1	1	RI05334180	330KΩ, Chip
R395	1	1	1	1	1	RI05223180	22KΩ, Chip
R396	1	1	1	1	1	RI05563180	56KΩ, Chip
R397	1	1	1	1	1	RI05563180	56KΩ, Chip
R398	1	1	1	1	1	RI05182180	1.8KΩ, Chip
R399	1	1	1	1	1	RI05182180	1.8KΩ, Chip
R401	1	1	1	1	1	RI05332180	3.3KΩ, Chip
R402	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R403	1	1	1	1	1	GA05820010	82Ω 1W
							P200-SEMICONDUCTORS
D244	1	1	1	1	1	HD20001000	Diode 1S1555
D245	1	1	1	1	1	HZ20001020	Diode MA151WK,Chip
D246	1	1	1	1	1	HD20001000	Diode 1S1555
D249	1	1	1	1	1	HD20001000	Diode 1S1555
D250	1	1	1	1	1	HD20001000	Diode 1S1555
D251	1	1	1	1	1	HD30041010	Zener HZ2C2
D252	1	1	1	1	1	HD30021060	Zener RD5.1EB2
D253	1	1	1	1	1	HZ30001020	Zener MA3068-M, Chip
D255	1	1	1	1	1	HD20001000	Diode 1S1555
D256	1	1	1	1	1	HD20001000	Diode 1S1555
D257	1	1	1	1	1	HD20001000	Diode 1S1555
D258	1	1	1	1	1	HD20001000	Diode 1S1555
D259	1	1	1	1	1	HD20001000	Diode 1S1555
Q201	1	1	1	1	1	HC10105060	IC U-CON Servo
Q205	1	1	1	1	1	HC10081060	IC μPC339C
Q207	1	1	1	1	1	HC10055010	IC HD14025B
Q208	1	1	1	1	1	HC10003090	IC NJM4558D
Q209	1	1	1	1	1	HC10003090	IC NJM4558D
Q211	1	1	1	1	1	HC10056010	IC HD14053B
Q212	1	1	1	1	1	HC10082060	IC μPC324C
Q213	1	1	1	1	1	HC10057010	IC HD14070B
Q214	1	1	1	1	1	HC10082060	IC μPC324C
Q215	1	1	1	1	1	HC10082060	IC μPC324C
Q217	1	1	1	1	1	HC10003090	IC NJM4558D
Q218	1	1	1	1	1	HC10083060	IC μPC741C
Q219	1	1	1	1	1	HC10058010	IC HD74LS74A
Q220	1	1	1	1	1	HC10058010	IC HD74LS74A
Q230	1	1	1	1	1	HT309452B0	Transistor 2SC945(P, Q)
Q231	1	1	1	1	1	HT328241Y0	Transistor 2SC2824(Y)
Q232	1	1	1	1	1	HT111841Y0	Transistor 2SA1184(Y)
Q233	1	1	1	1	1	HT313841R0	Transistor 2SC1384(R)
Q234	1	1	1	1	1	HT106841R0	Transistor 2SA684(R)
Q238	1	1	1	1	1	HT309452B0	Transistor 2SC945(P, Q)
Q239	1	1	1	1	1	HT309452B0	Transistor 2SC945(P, Q)
Q240	1	1	1	1	1	HT111841Y0	Transistor 2SA1184(Y)
Q241	1	1	1	1	1	HT328241Y0	Transistor 2SC2824(Y)
Q242	1	1	1	1	1	HT107332A0	Transistor 2SA733(P, Q)
Q243	1	1	1	1	1	HT333811G0	Transistor 2SC3381(GR)
Q244	1	1	1	1	1	HT333811G0	Transistor 2SC3381(GR)
Q245	1	1	1	1	1	HT309452B0	Transistor 2SC945(P, Q)
Q246	1	1	1	1	1	HT309452B0	Transistor 2SC945(P, Q)
Q401	1	1	1	1	1	HT327852A0	Transistor 2SC2785(RF,JF)
Q402	1	1	1	1	1	HT313841R0	Transistor 2SC1384(R)

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
							P200-MISCELLANEOUS
J201	1	1	1	1	1	YJ06003110	Jack, 11P
X201	1	1	1	1	1	FQ03504010	Seramic Vibrator, 3.58MHz
							P500-DECODER/ HEADPHONE AMP CIRCUIT BOARD
P500	1	1	1	1	1	WB106K1810	P.W. Board, Decoder Headphone Amp
	1	1	1	1		ZZ106K1810	P.W. Board Assembly
							P500-CAPACITORS
C501	1	1	1	1	1	DF16104310	Film 0.1μF ±10%
C502	1	1	1	1	1	DF16104310	Film 0.1μF ±10%
C503	1	1	1	1	1	DF74223030	Film 0.022μF ±2%
C504	1	1	1	1	1	DK46223300	Ceramic 0.022μF ±10%,Chip
C505	1	1	1	1	1	DK46222300	Ceramic 2200pF ±10%,Chip
C507	1	1	1	1	1	DK46272300	Ceramic 2700pF ±10%,Chip
C508	1	1	1	1	1	DK46821300	Ceramic 820pF ±10%,Chip
C509	1	1	1	1	1	DK46472300	Ceramic 4700pF ±10%,Chip
C510	1	1	1	1	1	DK46222300	Ceramic 2200pF ±10%,Chip
C511	1	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%,Chip
C512	1	1	1	1	1	OA47601610	Elect 47μF 16V
C513	1	1	1	1	1	DF74223030	Film 0.022μF ±2%
C521	1	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%,Chip
C522	1	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%,Chip
C523	1	1	1	1	1	DK46471300	Ceramic 470pF ±10%,Chip
C524	1	1	1	1	1	DK46471300	Ceramic 470pF ±10%,Chip
C525	1	1	1	1	1	DK46222300	Ceramic 2200pF ±10%,Chip
C526	1	1	1	1	1	DF15104310	Film 0.1μF ±5%
C528	1	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%,Chip
C529	1	1	1	1	1	OA47601610	Elect 47μF 16V
C549	1	1	1	1	1	DK46223300	Ceramic 0.022μF ±10%,Chip
C550	1	1	1	1	1	DK46223300	Ceramic 0.022pF ±10%,Chip
C551	1	1	1	1	1	DD45680300	Ceramic 68pF ±5%,Chip
C552	1	1	1	1	1	DD45330300	Ceramic 33pF ±5%,Chip
C553	1	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%,Chip
C554	1	1	1	1	1	OA47601610	Elect 47μF 16V
C555	1	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%,Chip
C556	1	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%,Chip
C557	1	1	1	1	1	DK46223300	Ceramic 0.022μF ±10%,Chip
C561	1	1	1	1	1	EA47602560	Elect 47μF 25V
C562	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C563	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C564	1	1	1	1	1	DK16821300	Ceramic 820pF ±10%
C565	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C566	1	1	1	1	1	DF15474350	Film 0.47μF ±5%
C567	1	1	1	1	1	DF15474350	Film 0.47μF ±5%
C568	1	1	1	1	1	DF16104310	Film 0.1μF ±10%
C569	1	1	1	1	1	DF16152310	Film 1500pF ±10%
C570	1	1	1	1	1	DF16104310	Film 0.1μF ±10%
C571	1	1	1	1	1	DF16104310	Film 0.1μF ±10%
C572	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C573	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C574	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C575	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C576	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C581	1	1	1	1	1	EA47602560	Elect 47μF 25V
C582	1	1	1	1	1	DF16223310	Film 0.022μF ±10%

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
C583	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C584	1	1	1	1	1	DK16821300	Ceramic 820pF ±10%
C585	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C586	1	1	1	1	1	DF15474350	Film 0.47μF ±5%
C587	1	1	1	1	1	DF15474350	Film 0.47μF ±5%
C588	1	1	1	1	1	DF16104310	Film 0.1μF ±10%
C589	1	1	1	1	1	DF16152310	Film 1500pF ±10%
C590	1	1	1	1	1	DF16104310	Film 0.1μF ±10%
C591	1	1	1	1	1	DF16104310	Film 0.1μF ±10%
C592	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C593	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C594	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C595	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C596	1	1	1	1	1	DF16223310	Film 0.022μF ±10%
C601	1	1	1	1	1	DF55512530	Film 5100pF ±5%
C602	1	1	1	1	1	DF74153010	Film 0.015μF ±2%
C603	1	1	1	1	1	DF55222530	Film 2200pF ±5%
C604	1	1	1	1	1	EA47602560	Elect 47μF 25V
C605	1	1	1	1	1	DF55222530	Film 2200pF ±5%
C606	1	1	1	1	1	DF55122530	Film 1200pF ±5%
C607	1	1	1	1	1	EA10701660	Elect 100μF 16V
C608	1	1	1	1	1	EA10701660	Elect 100μF 16V
C610	1	1	1	1	1	OA10701610	Elect 100μF 16V
C611	1	1	1	1	1	OA10701610	Elect 100μF 16V
C612	1	1	1	1	1	DF55222510	Film 2200pF ±5%
C621	1	1	1	1	1	DF55512530	Film 5100pF ±5%
C622	1	1	1	1	1	DF74153010	Film 0.015μF ±2%
C623	1	1	1	1	1	DF55222530	Film 2200pF ±5%
C624	1	1	1	1	1	EA47602560	Elect 47μF 25V
C625	1	1	1	1	1	DF55222530	Film 2200pF ±5%
C626	1	1	1	1	1	DF55122530	Film 1200pF ±5%
C627	1	1	1	1	1	EA10701660	Elect 100μF 16V
C628	1	1	1	1	1	EA10701660	Elect 100μF 16V
C641	1	1	1	1	1	OA22700610	Elect 220μF 6.3V
C652	1	1	1	1	1	DF55222510	Film 2200pF ±5%
							P500-RESISTORS (All Resistors are ±5% & 1/8W)
R501	1	1	1	1	1	RI05102180	1KΩ, Chip
R502	1	1	1	1	1	RI05105180	1MΩ, Chip
R503	1	1	1	1	1	RI05105180	1MΩ, Chip
R504	1	1	1	1	1	GD05183140	18KΩ ¼W
R505	1	1	1	1	1	RI05474180	470KΩ, Chip
R506	1	1	1	1	1	RI05474180	470KΩ, Chip
R507	1	1	1	1	1	RI05184180	180KΩ, Chip
R508	1	1	1	1	1	RI05183180	18KΩ, Chip
R509	1	1	1	1	1	GD05392140	3.9KΩ ¼W
R510	1	1	1	1	1	RI05103180	10KΩ, Chip
R511	1	1	1	1	1	RI05104180	100KΩ, Chip
R512	1	1	1	1	1	GD05184140	180KΩ ¼W
R514	1	1	1	1	1	RI05000180	0Ω, Chip
R521	1	1	1	1	1	GD05222140	2.2KΩ ¼W
R522	1	1	1	1	1	RI05223180	22KΩ, Chip
R523	1	1	1	1	1	RI05103180	10KΩ, Chip
R524	1	1	1	1	1	RI05222180	2.2KΩ, Chip
R525	1	1	1	1	1	RI05222180	2.2KΩ, Chip
R526	1	1	1	1	1	RI05391180	390Ω, Chip
R527	1	1	1	1	1	RI05223180	22KΩ, Chip

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
R528	1	1	1	1	1	RI05103180	10KΩ, Chip
R529	1	1	1	1	1	RI05332180	3.3KΩ, Chip
R530	1	1	1	1	1	RI05104180	100KΩ, Chip
R531	1	1	1	1	1	RI05103180	10KΩ, Chip
R532	1	1	1	1	1	RI05104180	100KΩ, Chip
R533	1	1	1	1	1	RI05473180	47KΩ, Chip
R534	1	1	1	1	1	RI05274180	270KΩ, Chip
R535	1	1	1	1	1	RI05393180	39KΩ, Chip
R536	1	1	1	1	1	GD05104140	100KΩ ¼W
R537	1	1	1	1	1	GD05472140	4.7KΩ ¼W
R538	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R549	1	1	1	1	1	GD05010140	1Ω ¼W
R550	1	1	1	1	1	RI05102180	1KΩ, Chip
R558	1	1	1	1	1	RI05105180	1MΩ, Chip
R559	1	1	1	1	1	RI05102180	1KΩ, Chip
R560	1	1	1	1	1	GD05471140	470Ω ¼W
R561	1	1	1	1	1	RI05151180	150Ω, Chip
R562	1	1	1	1	1	RI05102180	1KΩ, Chip
R563	1	1	1	1	1	RI05102180	1KΩ, Chip
R564	1	1	1	1	1	RI05102180	1KΩ, Chip
R565	1	1	1	1	1	RI05102180	1KΩ, Chip
⚠R571	1	1	1	1	1	GG05101140	100Ω ¼W
R572	1	1	1	1	1	RI05101180	100Ω, Chip
R573	1	1	1	1	1	RI05272180	2.7KΩ, Chip
R574	1	1	1	1	1	RI05621180	620Ω, Chip
R575	1	1	1	1	1	RI05820180	82Ω, Chip
⚠R581	1	1	1	1	1	GG05101140	100Ω ¼W
R582	1	1	1	1	1	RI05101180	100Ω, Chip
R583	1	1	1	1	1	RI05272180	2.7KΩ, Chip
R584	1	1	1	1	1	RI05621180	620Ω, Chip
R585	1	1	1	1	1	RI05820180	82Ω, Chip
R591	1	1	1	1	1	GD05102140	1KΩ ¼W
R592	1	1	1	1	1	GM21417810	1.78KΩ ±2% ¼W
R593	1	1	1	1	1	GD05105140	1MΩ ¼W
R594	1	1	1	1	1	GM21456220	56.2KΩ ±2% ¼W
R595	1	1	1	1	1	RI05222180	2.2KΩ, Chip
R596	1	1	1	1	1	RI05222180	2.2KΩ, Chip
R597	1	1	1	1	1	RI05103180	10KΩ, Chip
R598	1	1	1	1	1	GM214464G0	46.4Ω ±2% ¼W
R611	1	1	1	1	1	GD05102140	1KΩ ¼W
R612	1	1	1	1	1	GM21417810	1.78KΩ ±2% ¼W
R613	1	1	1	1	1	GD05105140	1MΩ ¼W
R614	1	1	1	1	1	GM21456220	56.2KΩ ±2% ¼W
R615	1	1	1	1	1	RI01222180	2.2KΩ, Chip ±1%
R616	1	1	1	1	1	RI01222180	2.2KΩ, Chip ±1%
R617	1	1	1	1	1	RI05103180	10KΩ, Chip
R618	1	1	1	1	1	GM214464G0	46.4Ω ±2% ¼W
R623	1	1	1	1	1	RI05000180	0Ω, Chip
R651	1	1	1	1	1	GD05472140	4.7KΩ ¼W
R652	1	1	1	1	1	RI05153180	15KΩ, Chip
R653	1	1	1	1	1	GD05332140	3.3KΩ ¼W
R654	1	1	1	1	1	RI05562180	5.6KΩ, Chip
R655	1	1	1	1	1	RI05822180	8.2KΩ, Chip
R661	1	1	1	1	1	GD05221140	220Ω ¼W
R664	1	1	1	1	1	RI05222180	2.2KΩ, Chip
R665	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R666	1	1	1	1	1	RI05221180	220Ω, Chip
R681	1	1	1	1	1	GD05221140	220Ω ¼W
R684	1	1	1	1	1	RI05222180	2.2KΩ, Chip
R685	1	1	1	1	1	RI05472180	4.7KΩ, Chip
R686	1	1	1	1	1	RI05221180	220Ω, Chip

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
							P500-SEMICONDUCTORS
D545	1	1	1	1	1	HZ20002020	Diode MA151WA, Chip
D546	1	1	1	1	1	HD20001210	Diode 1S2473
⚠D547	1	1	1	1	1	HD20001000	Diode 1S1555
D549	1	1	1	1	1	HZ20001020	Diode MA151WA,Chip
D551	1	1	1	1	1	HZ20001020	Diode MA151WA,Chip
D557	1	1	1	1	1	HD20001210	Diode 1S2473
D558	1	1	1	1	1	HD20001210	Diode 1S2473
D559	1	1	1	1	1	HZ20005020	Diode MA153, Chip
D561	1	1	1	1	1	HD40006030	Varicap SVC321SP
D562	1	1	1	1	1	HD40006030	Varicap SVC321SP
Q501	1	1	1	1	1	HC10022270	IC SAA7011
Q502	1	1	1	1	1	HT327852A0	Transistor 2SC2785(RF,JF)
Q503	1	1	1	1	1	HT327852A0	Transistor 2SC2785(RF,JF)
Q504	1	1	1	1	1	HT327852A0	Transistor 2SC2785(RF,JF)
Q508	1	1	1	1	1	HC10084060	IC μPC393C
Q510	1	1	1	1	1	HC10023270	IC SAA7020
Q512	1	1	1	1	1	HC10098060	IC μPD4016C
Q514	1	1	1	1	1	HC10021270	IC SAA7000
Q517	1	1	1	1	1	HC10024270	IC SAA7030
Q519	1	1	1	1	1	HC10025270	IC TDA1540D
Q520	1	1	1	1	1	HC10025270	IC TDA1540D
Q523	1	1	1	1	1	HC10021090	IC 4560DD
Q525	1	1	1	1	1	HC10021090	IC 4560DD
Q527	1	1	1	1	1	HC10021090	IC 4560DD
Q535	1	1	1	1	1	HT111752A0	Transistor 2SA1175(RF,JF)
Q536	1	1	1	1	1	HT111752A0	Transistor 2SA1175(RF,JF)
							P500-MISCELLANEOUS
J502	1	1	1	1	1	YJ06003100	Jack, 10P
J505	1	1	1	1	1	YP06001040	Plug, 3P
L501	1	1	1	1	1	LO74013050	OSC Coil, 7.5μH
L502	1	1	1	1	1	LC14730040	Choke Coil, 47μH
L507	1	1	1	1	1	LY10050040	Relay, Reed
L508	1	1	1	1	1	LY10050040	Relay, Reed
L510	1	1	1	1	1	LY20045010	Relay, SZ-2101
X504	1	1	1	1	1	XB108002L2	Crystal, 4.2336MHz
							P800-POWER SUPPLY CIRCUIT BOARD
P800	1	1	1	1	1	WB106K1830	P.W. Board, Power Supply
	1	1	1	1		ZZ106K1830	P.W. Board Assembly
							P800-CAPACITORS
CM03	1	1	1	1	1	DF16104310	Film 0.1μF ±10%
CM04	1	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%,Chip
C803	1	1	1	1	1	OA47801610	Elect 4700μF 16V
C804	1	1	1	1	1	OA22701610	Elect 220μF 16V
C806	1	1	1	1	1	OA10801610	Elect 1000μF 16V
C808	1	1	1	1	1	OA22701610	Elect 220μF 16V
C812	1	1	1	1		OA33802510	Elect 3300μF 25V
C812					1	EB68802530	Elect 6800μF 25V
C813	1	1	1	1		OA33802510	Elect 3300μF 25V
C813					1	EB68802530	Elect 6800μF 25V
C814	1	1	1	1	1	OA22701610	Elect 220μF 16V
C815	1	1	1	1	1	OA10601610	Elect 10μF 16V
C819	1	1	1	1	1	OA22701610	Elect 220μF 16V
C821	1	1	1	1	1	OA10701010	Elect 100μF 10V
⚠C822	1	1	1	1	1	OA10702510	Elect 100μF 25V
C824	1	1	1	1	1	OA33705010	Elect 330μF 50V

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
							P800-RESISTORS (All Resistors are ±5% & 1/8W)
R801					1	GD05101140	100Ω
R805	1	1	1	1	1	GD05681140	680Ω
R809	1	1	1	1	1	GD05561140	560Ω
R810	1	1	1	1	1	GD05102140	1KΩ
RM01	1	1	1	1	1	GD05183140	18KΩ
RM02	1	1	1	1	1	GD05223140	22KΩ
⚠RM05	1	1	1	1		NF05047140	4.7Ω, Fuse
⚠RM05					1	GD05047140	4.7Ω
RM07	1	1	1	1	1	RI05473180	47KΩ 1/8W,Chip
							P800-SEMICONDUCTORS
⚠D801	1	1	1	1	1	HD20026080	Diode RB151
D802	1	1	1	1	1	HD20022030	Diode DSF10C-BT
⚠D803	1	1	1	1	1	HD20021290	Diode S1VB20
⚠D804	1	1	1	1	1	HD20022030	Diode DSF10C-BT
⚠D805	1	1	1	1	1	HD20022030	Diode DSF10C-BT
⚠D806	1	1	1	1	1	HD20022030	Diode DSF10C-BT
D807	1	1	1	1	1	HD30040060	Zener RD5.6E
D808	1	1	1	1	1	HD30041060	Zener RD6.8E
D809	1	1	1	1	1	HD30040060	Zener RD5.6E
DM01	1	1	1	1	1	HD30043060	Zener RD8.2E
⚠Q801	1	1	1	1		FU20215010	Protector Unit, ICP-F50
Q803	1	1	1	1	1	HC10056060	IC μPC7805H
Q805	1	1	1	1	1	HT315682A0	Transistor 2SC1568
⚠Q806	1	1	1	1		FU20215010	Protector Unit, ICP-F50
⚠Q807	1	1	1	1		FU20215010	Protector Unit, ICP-F50
Q808	1	1	1	1		FU60115010	Protector Unit, ICP-F15
Q809	1	1	1	1		FU60115010	Protector Unit, ICP-F15
Q810	1	1	1	1	1	HC10043060	IC μPC7812H
Q811	1	1	1	1	1	HC10044060	IC μPC7912H
Q812	1	1	1	1	1	HT206321F0	Transistor 2SB632K(F)
⚠Q813	1	1	1	1		FU40115010	Protector Unit, ICP-F10
Q815	1	1	1	1	1	HT107332A0	Transistor 2SA733(P, Q)
QM02	1	1	1	1	1	HC10148030	IC LB1645N
							P800-MISCELLANEOUS
J801	1	1	1	1	1	YP06001060	Plug, 7P
J802	1	1	1	1	1	YJ06003060	Jack, 6P
J803	1	1	1	1	1	YJ06003070	Jack, 7P
J804	1	1	1	1	1	YJ06003050	Jack, 5P
J805	1	1	1	1	1	YP06001040	Plug, 3P
JM06	1	1	1	1	1	YJ06003060	Jack, 6P
JM07	1	1	1	1	1	YJ06003060	Jack, 6P
SM01	1	1	1	1	1	SP01010800	Push Switch, Tray Open/Close
							PH00-FILTER CIRCUIT BOARD
PH00		1	1	1		WB106K1860	P.W. Board, Filter
		1	1	1		ZZ106K8860	P.W. Board Assembly
							PH00-CAPACITORS
⚠CH01		1	1	1		DF77154810	Film 0.15μF ±20% 250V
⚠CH02		1	1	1		DF77154810	Film 0.15μF ±20% 250V
⚠CH03		1	1	1		DK16471800	Ceramic 470pF ±10% 400V
⚠CH04		1	1	1		DK16471800	Ceramic 470pF ±10% 400V
							PH00-RESISTOR
⚠RH01		1	1	1		RC05224120	220KΩ ±5% ½W
							PH00-MISCELLANEOUS
⚠LH01		1	1	1		TZ11560010	Choke Trans, 15mH x 2

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
							PS10-POWER SWITCH CIRCUIT BOARD
PS10	1	1	1	1	1	WB106K1870	P.W. Board, Power Switch
	1	1	1	1		ZZ106K1870	P.W. Board Assembly
⚠G801	1	1	1	1		DK18103840	Ceramic Cap. 0.01μF
⚠G801					1	DF16104510	Film Cap. 0.1μF ±10%
⚠S801	1	1	1	1	1	SP01010650	Push Switch, Power
							PS20-TEN KEY CIRCUIT BOARD
PS20	1	1	1	1	1	WB106K2420	P.W. Board, Ten Key
	1	1	1	1		ZZ106K2420	P.W. Board Assembly
SS01 ~ SS16	16	16	16	16	16	SP01010800	Push Switch, Tack
							PT10-FEATER U-CON CIRCUIT BOARD
PT10	1	1	1	1	1	WB106K1840	P.W. Board, Feater U-Con
	1	1	1	1		ZZ106K1840	P.W. Board Assembly
							PT10-CAPACITORS
CT01	1	1	1	1	1	DK46223300	Ceramic 0.022μF ±10%
CT02	1	1	1	1	1	OA10505010	Elect 1μF 50V
CT04	1	1	1	1	1	DK46103300	Ceramic 0.01μF ±10%
CT05	1	1	1	1	1	OA10505010	Elect 1μF 50V
CT11	1	1	1	1	1	OA10605010	Elect 10μF 50V
CT12	1	1	1	1	1	OA10602510	Elect 10μF 25V
CT13	1	1	1	1	1	OA22703510	Elect 220μF 35V
							PT10-RESISTORS (All Resistors are ±5% & 1/4W)
RT01	1	1	1	1	1	WB05472020	4.7KΩ x 6, Composite
RT02	1	1	1	1	1	GD05473140	47KΩ
RT03	1	1	1	1	1	RI05333180	33KΩ 1/8W,Chip
RT04	1	1	1	1	1	GD05223140	22KΩ
RT05	1	1	1	1	1	GD05102140	1KΩ
RT06	1	1	1	1	1	BW05472010	4.7KΩ x 4, Composite
RT07	1	1	1	1	1	GD05154140	150KΩ
RT08	1	1	1	1	1	RI05472180	4.7KΩ 1/8W, Chip
RT09	1	1	1	1	1	RI05472180	4.7KΩ 1/8W, Chip
RT11	1	1	1	1	1	GD05152140	1.5KΩ
RT12	1	1	1	1	1	GD05471140	470Ω
							RT10-SEMICONDUCTORS
DT01	1	1	1	1	1	HD20001000	Diode 1S1555
DT02	1	1	1	1	1	HD20022030	Diode DSF10C
DT03	1	1	1	1	1	HD20022030	Diode DSF10C
DT04	1	1	1	1	1	HD30043060	Zener RD8.2E
DT05	1	1	1	1	1	HD30022060	Zener RD22E
DT07	1	1	1	1	1	HD20001000	Didoe 1S1555
QT01	1	1	1	1	1	HC10104060	IC μPD1512ACU
QT02	1	1	1	1	1	HT313842A0	Transistor 2SC1384

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
							PT10-MISCELLANEOUS
JT01	1	1	1	1	1	YJ06003070	Jack, 7P
JT02	1	1	1	1	1	YJ06003160	Jack, 13P
JT03	1	1	1	1	1	YJ06003080	Jack, 8P
JT04	1	1	1	1	1	YJ06003080	Jack, 8P
JT06	1	1	1	1	1	YJ06002390	Jack, 5P
JT07	1	1	1	1	1	YJ06001980	Jack, 2P
JT09	1	1	1	1	1	YJ06001060	Jack, 7P
JT10	1	1	1	1	1	YJ06001040	Jack, 3P
LT01	1	1	1	1	1	LC14730040	Choke Coil, 47μH
							PU10-HEADPHONE CIRCUIT BOARD
PU10	1	1	1	1	1	WB106K1880	P.W. Board, Headphone
	1	1	1	1		ZZ106K1880	P.W. Board Assembly
PJ21	1	1	1	1		YJ01001790	Jack, Headphone
PJ21					1	YJ01002080	Jack, Headphone
							PW10-RCA OUTPUT VR. CIRCUIT BOARD
PW10	1	1	1	1	1	WB106K1850	P.W. Board, RCA Output VR.
	1					ZZ106K1850	P.W. Board Assembly
		1	1	1		ZZ106K8850	P.W. Board Assembly
							PW10-RESISTORS
RW01	1	1	1	1		RB02220010	2KΩ, Variable
RW02	1	1	1	1		RB02220010	2KΩ, Variable
RW03	1	1	1	1	1	RI05221180	220Ω ±5% 1/8W,Chip
RW05	1	1	1	1	1	RI05473180	47KΩ ±5% 1/8W,Chip
RW07	1	1	1	1	1	RI05472180	4.7KΩ ±5% 1/8W,Chip
							PW10-SEMICONDUCTORS
DW01	1	1	1	1	1	HD30035060	Zener RD6.3E
QW01	1	1	1	1	1	BA20001020	Semicon Composite, UN2215
QW02	1	1	1	1	1	BA10001020	Semicon Composite, UN2214
QW03	1	1	1	1	1	BA20001020	Semicon Composite, UN2215
							PW10-MISCELLANEOUS
WT01	1	1	1	1	1	YT02020440	Terminal, 2P; RCA Jack
WT02	1	1	1	1	1	YT02020330	Terminal, 2P; RCA Jack
WT03	1					YT02020420	Terminal, 2P; RCA Jack
WT03		1	1	1	1	YT02020330	Terminal, 2P; RCA Jack
							PX20-IN/OUT CIRCUIT BOARD
PX20	1	1	1	1	1	WB106K2440	P.W. Board, IN/OUT
	1	1	1	1		ZZ106K2440	P.W. Board Assembly
SX01	1	1	1	1	1	SP01010800	Push Switch, Tack
							PY20-DISPLAY CIRCUIT BOARD
PY20	1	1	1	1	1	WB106K2410	P.W. Board, Display
	1	1	1	1		ZZ106K2410	P.W. Board Assembly
							PY20-CAPACITORS
CY01	1	1	1	1	1	OA10505010	Elect 1μF 50V
CY02	1	1	1	1	1	DK46223300	Ceramic 0.022μF ±10%

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
							PY20-RESISTORS (All Resistors are ±5% & 1/8W)
RY01	1	1	1	1	1	RI05472180	4.7KΩ ,Chip
RY02	1	1	1	1	1	RI05472180	4.7KΩ, Chip
RY03	1	1	1	1	1	RI05472180	4.7KΩ, Chip
RY04	1	1	1	1	1	RI05472180	4.7KΩ, Chip
RY05	1	1	1	1	1	RI05472180	4.7KΩ, Chip
RY06	1	1	1	1	1	RI05472180	4.7KΩ, Chip
RY07	1	1	1	1	1	RI05472180	4.7KΩ, Chip
RY08	1	1	1	1	1	RI05472180	4.7KΩ, Chip
RY09	1	1	1	1	1	RI05472180	4.7KΩ, Chip
RY10	1	1	1	1	1	RI05472180	4.7KΩ, Chip
RY13	1	1	1	1	1	RI05472180	4.7KΩ, Chip
RY14	1	1	1	1	1	RI05473180	47KΩ, Chip
RY15	1	1	1	1	1	RI05103180	10KΩ, Chip
RY16	1	1	1	1	1	RI05103180	10KΩ, Chip
RY17	1	1	1	1	1	RI05102180	1KΩ, Chip
RY18	1	1	1	1	1	RI05102180	1KΩ, Chip
RY19	1	1	1	1	1	RI05222180	2.2KΩ, Chip
RY20	1	1	1	1	1	RI05222180	2.2KΩ, Chip
RY21	1	1	1	1	1	BW05154010	150KΩ x 8, Composite
RY22	1	1	1	1	1	BW05154010	150KΩ x 8, Composite
RY23	1	1	1	1	1	BW05154020	150KΩ x 10, Composite
RY30	1	1	1	1	1	GD05392140	3.9KΩ ¼W
							PY20-SEMICONDUCTORS
DY01	1	1	1	1	1	HD20001000	Diode 1S1555
QY01	1	1	1	1	1	HC10106060	IC μPD1510AC
QY02	1	1	1	1	1	HC10104260	IC MSL918RS
QY03	1	1	1	1	1	HC10104260	IC MSL918RS
QY04	1	1	1	1	1	HC10104260	IC MSL918RS
QY05	1	1	1	1	1	HT327852A0	Transistor 2SC2785(RF,JF)
QY06	1	1	1	1	1	HT327852A0	Transistor 2SC2785(RF,JF)
QY07	1	1	1	1	1	HT111752A0	Transistor 2SA1175(RF,JF)
QY08	1	1	1	1	1	HT111752A0	Transistor 2SA1175(RF,JF)
							PY20-MISCELLANEOUS
JY03	1	1	1	1	1	YP06002540	Plug, 4P
SY01 ~ SY12	12	12	12	12	12	SP01010800	Push Switch, Tact
VY01	1	1	1	1	1	HQ30801060	Display Unit
							PZ20-SENSOR CIRCUIT BOARD
PZ20	1	1	1	1	1	WB106K2430	P.W. Board, Sensor
	1	1	1	1		ZZ106K2430	P.W. Board Assembly
							PZ20-CAPACITORS
CZ01	1	1	1	1	1	DK46333300	Ceramic 0.033μF ±10%,Chip
CZ02	1	1	1	1	1	DK46472300	Ceramic 4700pF ±10%,Chip
CZ03	1	1	1	1	1	EJ10601610	Elect 10μF 16V
CZ04	1	1	1	1	1	EJ47502510	Elect 4.7μF 25V
CZ05	1	1	1	1	1	EJ10601610	Elect 10μF 16V
CZ06	1	1	1	1	1	EJ47601610	Elect 47μF 16V

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
							PZ20-RESISTORS
RZ01	1	1	1	1	1	RI05224180	220KΩ ±5% 1/8W,Chip
RZ02	1	1	1	1	1	RI05120180	12Ω ±5% 1/8W,Chip
RZ03	1	1	1	1	1	RI05102180	1KΩ ±5% 1/8W,Chip
							PZ20-SEMICONDUCTORS
DZ01	1	1	1	1	1	HI60001060	L.E.D. PH302
QZ01	1	1	1	1	1	HC10071060	IC μPC1373H
							PZ20-MISCELLANEOUS
LZ01	1	1	1	1	1	LA74020010	Antenna Coil, 5mH
							PT51-CARBON CONTACT CIRCUIT BOARD
PT51		1	1	1	1	YF113K1210	P.W. Board, Carbon Contact
		1	1	1		ZZ113K1210	P.W. Board Assembly
							PT51-CAPACITORS
CT51		1	1	1	1	DK16121300	Ceramic 120pF ±10%
CT52		1	1	1	1	DK16471300	Ceramic 470pF ±10%
CT53		1	1	1	1	OA47405010	Elect 0.47μF 50V
							PT51-RESISTORS
RT51		1	1	1	1	GD05102140	1KΩ ±5% ¼W
RT52		1	1	1	1	GD05022140	2.2Ω ±5% ¼W

REF. DESIG.	Q'TY U	N	A	P	F	PART NO.	DESCRIPTION
							PT51-SEMICONDUCTORS
QT51		1	1	1	1	HI10030020	L.E.D. LN224RP
QT52		1	1	1	1	HI20003320	L.E.D. GL-521
QT53		1	1	1	1	HI20003320	L.E.D. GL-521
QT54		1	1	1	1	HT320011K0	Transistor Diode Drive
QT55		1	1	1	1	HC10070060	IC μPD6102G
DT51		1	1	1	1	HD20001210	Diode 1S2473
DT52		1	1	1	1	HD20001210	Diode 1S2473
DT53		1	1	1	1	HD20001210	Diode 1S2473
DT54		1	1	1	1	HD20001210	Diode 1S2473
DT55		1	1	1	1	HD20001210	Diode 1S2473
							PT51-MISCELLANEOUS
FT51		1	1	1	1	FQ04003020	Seramic Vibrator, 400kHz
							PT52-SWITCH CIRCUIT BOARD
PT52		1	1	1	1	YF113K1220	P.W. Board, Switch
		1	1	1		ZZ113K1220	P.W. Board Assembly
ST51		1	1	1	1	SS01020510	Slide Switch, ON/OFF

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

NOTE ON SAFETY:
SYMBOL ⚠ FIRE OR ELECTRICAL SHOCK HAZARD. ONLY ORIGINAL PARTS SHOULD BE USED TO REPLACE ANY PART MARKED WITH SYMBOL ⚠. ANY OTHER COMPONENT SUBSTITUTION (OTHER THAN ORIGINAL TYPE) MAY INCREASE RISK OF FIRE OR ELECTRICAL SHOCK HAZARD.

18. SPECIFICATIONS

AUDIO PERFORMANCE

Number of Channels	2
Frequency Range	4 – 20,000 Hz
Dynamic Range	> 90 dB
Signal-to-Noise Ratio	> 90 dB
Total Harmonic Distortion (incl. noise)	< 0.003 %
Wow and Flutter	quartz crystal precision
D/A Conversion	16 bit with digital filtering
Error Correction System	Cross Interleave Reed Solomon Code (CIRC)
Audio Output Level	2 V rms

OPTICAL READOUT SYSTEM

Laser	semi-conductor AlGaAs
Wave length	0.78 μm

SIGNAL FORMAT

Sampling Frequency	44.1 kHz
Quantization	16 bit lineair/channel

DISC

Diameter	120 mm
Thickness	1.2 mm
Sense of rotation (seen from reading side)	anti-clockwise
Scanning Velocity	1.2 – 1.4 m/s
Rotation Speed	500 – 200 rpm
Playing Time (max)	60 min (stereo)
Track Pitch	1.6 μm
Material	plastic

POWER SUPPLY

Mains Voltage	see type plate at the rear panel of the player
Material/finish	polystyrene with extruded aluminium profiles

This model is convertible to 110/120/220/240 volts by changing voltage selector on the rear panel.

Mains Frequencies	50 and 60 Hz
Power Consumption	32 W approx
Safety Requirements	IEC

CABINET, GENERAL

Dimensions (W × H × D)	
with drawer closed	416 × 90 × 300 mm
with drawer open	416 × 90 × 440 mm
Weight	9.2 kg approx
Connection Cable	fitted with mouled RCA plugs

Specifications and appearance are subject to change modification without notice.